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A DETAIL OF REMODELING "ABBEVILLE," RESIDENCE OF C. DUDLEY ARMSTRONG, JR., LANCASTER, PA., CAMERON CLARK, ARCHITECT

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THE MEANING OF MODERNIZING

BY FREDERICK M. FEIKER

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AT THIS particular time and because of the situation confronting us, modernizing and remodeling take on a new meaning, not only to those who depend on building for their livelihood but to the owner of property and to the entire community. Modernizing may prove to be the means of maintaining and of raising morale. It is work that is needed, that can be financed, and that gives employment to the largest possible number of workers, directly and indirectly. It puts money into circulation as few other projects can. It lessens the need for direct employment relief by putting self-respecting men to work instead of on a demoralizing dole.

THE ARCHITECT'S PART. I believe that the architects, due to their unique professional standing, can be the most powerful force in performing the public service of actively stimulating modernizing work in their communities. The promotion of this work demands active architectural participation. The architect can be of immediate value through:

1. Individual initiative, which implies an architect's study of the buildings in his community that need modernizing and then convincing the property owners of the necessity and value of the remodeling; or
2. A cooperative modernizing campaign, in which the architects function with all of the local factors in the building industry and other groups, such as the chamber of commerce, civic and commercial organizations and the press.

GROUP ACTION. The success of a community modernizing campaign has been shown to be in direct ratio to the cooperative attitude of the groups who organize it. Wherever the civic, religious, educational, and commercial groups unite to better the conditions in a city, they accomplish their purpose. Campaigns sponsored by one group receive the wholehearted cooperation of others. Each group has its special

function in the activity. Chambers of commerce, veteran organizations, churches, schools, clubs, trade associations, publicity agencies, construction interests and contractors' organizations, architectural and engineering representatives, are all important.

Such modernizing campaigns are no longer experiments. City after city has reported practical results measured in terms of labor and business obtained in conducting a well-planned, organized, civic campaign aimed to educate property owners to the value of making needed repairs and improvements. Millions of dollars have been spent, and are being spent, on properties as results of such campaigns. The aggregate sum pledged in 78 cities for modernizing work, mostly on residential structures, is a little more than $65,000,000. Although a great part of this work has been completed, recent reports indicate that numbers of jobs, resulting indirectly from such campaigns, but undertaken after the publicity programs were finished, have caused some local committees to maintain continuing activities.

Reports from a dozen cities, with an aggregate population of about 1,200,000, where modernizing campaigns have been conducted, show that about 24,000 skilled and non-skilled building workers were employed as a result of these special activities. Statements from certain cities indicate that during the progress of their campaigns appeals to public charities fell off as much as 50 per cent.

ONE CAMPAIGN. In the largest improvement campaign on record every newspaper in the city gave it front page publicity in creating interest and action as a public, unselfish, broad civic enterprise for civic benefit. Public-spirited citizens donated the use of a great number of billboards; radio publicity was donated; the mayor and prominent citizens who gave out worth while educational information were quoted. A group of architects formed an architectural bureau and made preliminary information available to anyone who might wish to have some plans worked out. The local chapter of the American Institute of Architects, as a body, cooperated. Architects served on the board; they were on the speakers' list; they were quoted in press interviews.

CAMPAIGN RESULTS. A property improvement campaign in a far Western city of about 300,000 population was the most successful one reported in 1932, not only from the standpoint of the greatest amount of work created, reaching a value of over $10,500,000, but because it took in all types of buildings, was conducted in a manner so that all trades and workers as well as the owners of buildings could profit by it, and because its influence spread to numerous other cities where its accomplishment was emulated. This campaign was not intended to build business for any one selected group of people; it was planned to stimulate a volume of business within the city, which would create employment directly and indirectly, and result in the greatest possible number of improvements at the very lowest cost consistent with reliable work.

Modernizing has been found equally profitable in residences, stores, garages, office buildings, apartment houses and hotels. It is becoming important in factories and industrial plants. Progress among independent grocers is evidenced by a survey of 45,000 stores that have been completely modernized and 25,000 more that have made various construction changes and improvements for the better. Wherever these stores have been properly reconditioned records show that sales have been materially increased.

A recent survey of office buildings in a large Eastern city indicated that within reasonable limits the age of a building has very little to do with its financial success, but that three-fourths of the old buildings which were still successful had been extensively and intelligently modernized, re-equipped and remodeled. The fact that modernizing results in greater profits from the rent of apartment houses and hotels has been demonstrated by numerous examples. Experience has shown that a modernized building, even in an unimproved area, can be more quickly rented, even at higher rates than people are willing to pay for surrounding less desirable structures.

Where the general locality is desirable, however, a much more satisfactory plan than improving an individual structure has been worked out. In one of our largest cities every building in a block has been completely reconditioned and modernized. In blocks where buildings are too dilapidated to be profitably repaired, it has been found desirable to tear them down and level off the lots for parking or playground space, or as sites for new buildings.

An architect has a unique opportunity in the development of modernizing work. In the opinion of Joseph D. Leland, A. I. A., a member of the Commerce Department Modernizing Committee, the former vice-president of the war-time United States Housing Corporation:

"Because of the architect's necessarily broad training and general knowledge of many trades which enter into home improvements, it would seem only reasonable that when a home owner is considering any major home improvements, the first person to whom he should turn for help should be an architect. A good architect makes suggestions or obtains his client's description of the requirements, studies the problem from all available angles . . . and makes rough sketches so expressing them. . . .

"During the progress of the construction of property improvements, where desired, the architect supervises the work and diligently guards the interests of the owner, inasmuch as they might be dam-

aged by inferior work, improper bills, or unjustified claims for extra payments. It is the architect's duty at the same time to see that the terms of the contract are fulfilled in a just and equitable manner in regard to both owner and contractor."

LABOR AND COSTS. Taking into account the prevailing surplus of desirable skilled mechanics and laborers in the building field, and that the costs of materials involved in reconditioning property are probably the lowest they have been for fifteen years, the present time is — to the property owner able to do so — propitious for making needed renovations and repairs. However, in addition to advantages secured by the individual property owner, trade in building materials improves when a campaign progresses and, as more people are employed and money is circulated, beneficial effects are felt throughout the community.

It is estimated that at least 50 per cent of the amount spent in modernizing goes to the employment of labor. Figures are not available whereon to base an accurate estimate of the many thousands of people who could be employed should modernizing campaigns be developed in hundreds of cities where such civic programs have not yet been undertaken. That carefully planned modernization and remodeling to many classes of property are aids to employment, to the stimulation of business, to increasing property values, and to the general improvement of community morale, has been demonstrated in more than a hundred cities in the United States within the past year. Architects can see to it that the same will hold true in 1933.

MODERNIZING

THE SMALL HOUSE

CHECK LIST AND SUGGESTIONS

BY FREDERIC ARDEN PAWLEY

BETTER living conditions are the basic reasons for modernizing a house. This implies greater safety, more healthful conditions, labor saving planning and equipment, and more amenities. These are gained: (1) by increased efficiency through replanning; (2) by repair or replacement of obsolete or defective features, structure and equipment; (3) by enlarged space, and (4) by improved appearance of exterior and interior design. A corollary of even greater interest to a non-resident owner is the improvement of investment and check in property obsolescence.

A careful appraisal of the property is essential before any extensive modernizing work is started. This appraisal should reveal the economic advisability of modernizing the building and a satisfactory trend of neighborhood values. It should determine the order of importance of improvements and their extent in light of what the owner can afford. Estimates of cost must be based on individual changes and cannot be determined by cubage. Any factors which jeopardize health or safety should naturally be corrected first (A); time and labor saving changes and money saving changes are next in importance (B); and finally, style changes and amenities (C). This A, B, C order will be followed since the outline is for architect and client. The order of topics is: 1. Sanitation and Plumbing. 2. Structural Repairs. 3. Weatherproofing, Insulation and Fire Protection. 4. Heating and Ventilation. 5. Electrical Work. 6. Plan, Alteration and Additions. 7. Decoration and Miscellaneous.

EQUIPMENT — REPAIR AND MODERNIZATION

1. SANITATION AND PLUMBING (A).

Repair sewer connection and disposal equipment. Replace water closets with modern, large water surface types.

Redesign drainage for adequate circulation of air in all pipes and to prevent siphonage, aspiration or forcing of trap seals. Run full size soil stack through roof, free opening, above snow or roof drain, away from windows or used roofs.

No direct connections between food storage (refrigerator) and drainage system. Prevent overflow in house of backflowing sewage.





Photos, Courtesy, Plumbing & Heating Industries

A bathroom "before and after" showing what can be done with two new fixtures, colored tile walls and other accessories. A new shower and current-mode medicine cabinet were installed also

Eliminate any cross connection between water supply and drainage. Provide new clean-outs in drainage system. Provide separate, accessible, self-scouring water seal trap for each fixture.

Replace corroded water supply piping and fixtures. Use soft temper pipe or tubing for renewing.

Below. An attic modernized with a sheet insulating board unplastered. Unused spaces can be reclaimed into livable quarters simply and inexpensively



Courtesy, Celotex Co

Replace leg type tub with built-in. Provide new sanitary floors, cove bases, wainscots in bathroom and work centers. (Tile, special wall boards, metal, linoleum, etc.)

Install gravity or pressure tank to assure adequate water pressure.

Drain wet spots and stagnant pools near house.

Fumigate. Take other precautions against pests.

Renew screens. Screen cellar windows.

SANITATION AND PLUMBING (B) AND (C).

Additional toilets and lavatory: first floor and basement. Quiet toilets. Sanitary seats. Additional lavatories in bedrooms or dressing rooms to avoid bathroom congestion.

Shut off valves, bathrooms, kitchens, laundry, basement.

Replate old or install new metal alloy fixtures. Install shower and curtain over tub. Install shower—tile or metal. Water softener—filter.

Buried lawn sprinkler. Additional tops for garden and garage. Gas, oil, electric, automatic water heater.

2. STRUCTURAL AND GENERAL REPAIRS (A).

Repair foundations and basement floor. Repair or point up masonry and brickwork. Check, strengthen or replace columns, beams, girders, joists, rafters, floors, and other stressed members to correct sagging, settling and unsafe structure. Replace old wood joists with light truss steel. Use Lally columns as additional supports. Replace weak floor with battledeck to gain headroom below. Strengthen construction over openings.

Patch plaster or replaster rooms. Repair stairs: treads, risers, handrails (proper height), including basement stairs. Eliminate surprise steps. Alter stairs for adequate headroom. Repair porches: floors, steps, railings, posts. Reshingle, retile or repair roofs.

Make doors and windows tightfitting and easy working by: repairing or replacing window sash, frames, panes, locks; exterior and interior doors, frames, hardware.

3. WEATHERPROOFING, INSULATION AND FIRE PROTECTION (A).

Waterproof basement walls and floor. Provide basement floor drain. Install outside drain tile to conduct water from foundations. Clear, repair or add to gutters, downspouts, conductor heads. Replace defective flashing. Use pressure gun for calking.

Make exterior walls, cornices, water tables weathertight. Reface with brick, stucco, shingles or siding over new building paper. Paint weathering surfaces, including corrodible metal. Make skylight tight. Weatherstrip doors and windows, at least on exposed side of house.

Insulate roof undersurface. Insulate exterior walls with non-rigid "bats," wallboards, or insulation blown into place. Insulate ceilings of porches with rooms over them.

Fireproof basement ceiling with plaster on metal lath. Provide fire stops while repairing structure: between studs, over sills and girders, around pipe openings, over partitions. Insulate heated pipes and chimneys from combustible structure. Surround with fire resistant materials. Protect framing members and ceiling near furnace, water heater and flues. Cover heater.

Obey gasoline and oil use and storage regulations.

Recommended: Metal-lined door between basement and first floor; enclosed stair exit from top floor; skylights with fusible links; basement and attic sprinkler systems; metal ash containers not in contact with wood; convenient fire extinguishers.

Insulation (B).

Purposes: Conserve heat or coolness, keep out heat or cold, reduce heating fuel and cooling expenses. Reduce noise and vibration transmission (very much dependent on structure — mere "insulation" may not lessen sound penetration). Prevention of condensation.

Materials: Mineral or rock wools, treated hair felt, treated wood fibre blankets, wall boards, cork and cork boards, quilts, acoustic tiles and plasters, aerated concrete, asbestos, magnesia, metal-clad fibre boards or felts. Spring or absorbent bearings and bases for machines and structure. Treatment of ducts. Pipe covering. Weatherstripping, condensation gutters, double glazing, dehydrated panes, glass blocks.

Desirable qualities: Fireproof, verminproof, waterproof, non-disintegrating, appearance.

Methods: Dry blown rock wools. Sprayed-on plasters. Quilts or felts in layers with air spaces. (Quilt should be carried around angles at junctures of walls, ceiling, floors.) Partitions should rest on anti-vibration courses. Sound transmission through tight partitions is always in inverse ratio to mass of partition. Acoustic tile most efficient on ceilings. Acoustic materials are usually more efficient without paint. When air spaces are used there must be no contact of two surfaces; studs should be staggered. Double-glazed windows should have the panes insulated with oiled felt; are best with separate, insulated frames. Heavy glass, small panes, metal frames, tight fasteners. Any continuous structure transmits sound, concrete floor structure, ceilings in contact with floors above, jointless surface materials, increase noise. Ventilation systems and other machinery cause trouble unless well insulated at source of sound.

4. Heating and Ventilation (A).

Repair or replace boiler or furnace.

Repair oil burner. Replace smoke pipe. Guard against stove, furnace, gas.

Correct defective chimney, test, repair masonry, strengthen adjacent framing members, provide proper cap, chimney pots, damper, shelf.

Check radiators, replace defective or inadequate ones and required piping. Check valves, repair or replace.

Provide *adequate* humidification. Repair or replace hot water heater, tank, piping.

Place exhaust fan behind or above kitchen stove. Improve ventilation of toilet and bath rooms: new or enlarged translucent window. One-half inch clearance of door over saddle — louvers in door.

Heating and Air Conditioning (B).

Consider new fuel, oil burner, automatic stoker, gas.

Remote control of heating by thermostats (may be clock controlled) should not be near abnormal heat or cold.

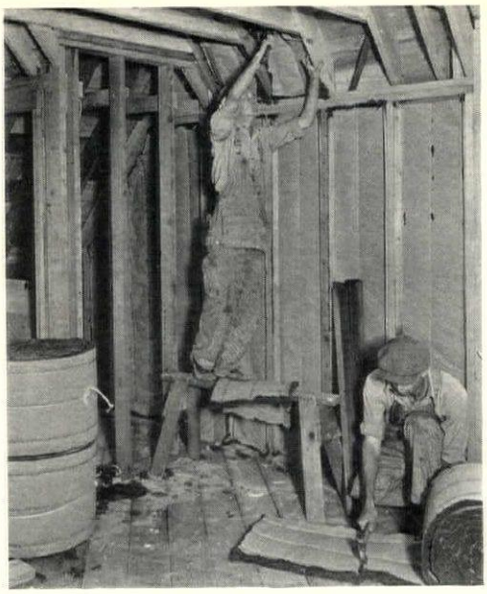
Bedside-switched electric heaters for bathroom, dressing room. Built-in models available (wiring).

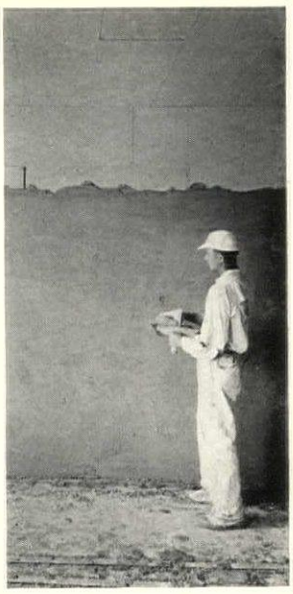
Hang radiators on wall for easy cleaning under. Set radiators into wall thickness using new non-ferrous convector types, to save space, cleaning, improve appearance and heating efficiency.

Add forced circulation to warm air system (gravity, fan). Heat garage.

Attach indirect heater to boiler for hot water during heating season. If heating is automatic, an aquastat control will provide summer hot water as well.

Air conditioning for partial or complete control and maintenance of optimum indoor conditions: Equipment available for maintenance of proper air movement, distribution, purity, humidification, dehumidification and cooling. Conditioners may be centralized or unit types.









Courtesy, Johns-Manville, Insulite, Flax-Li-Num

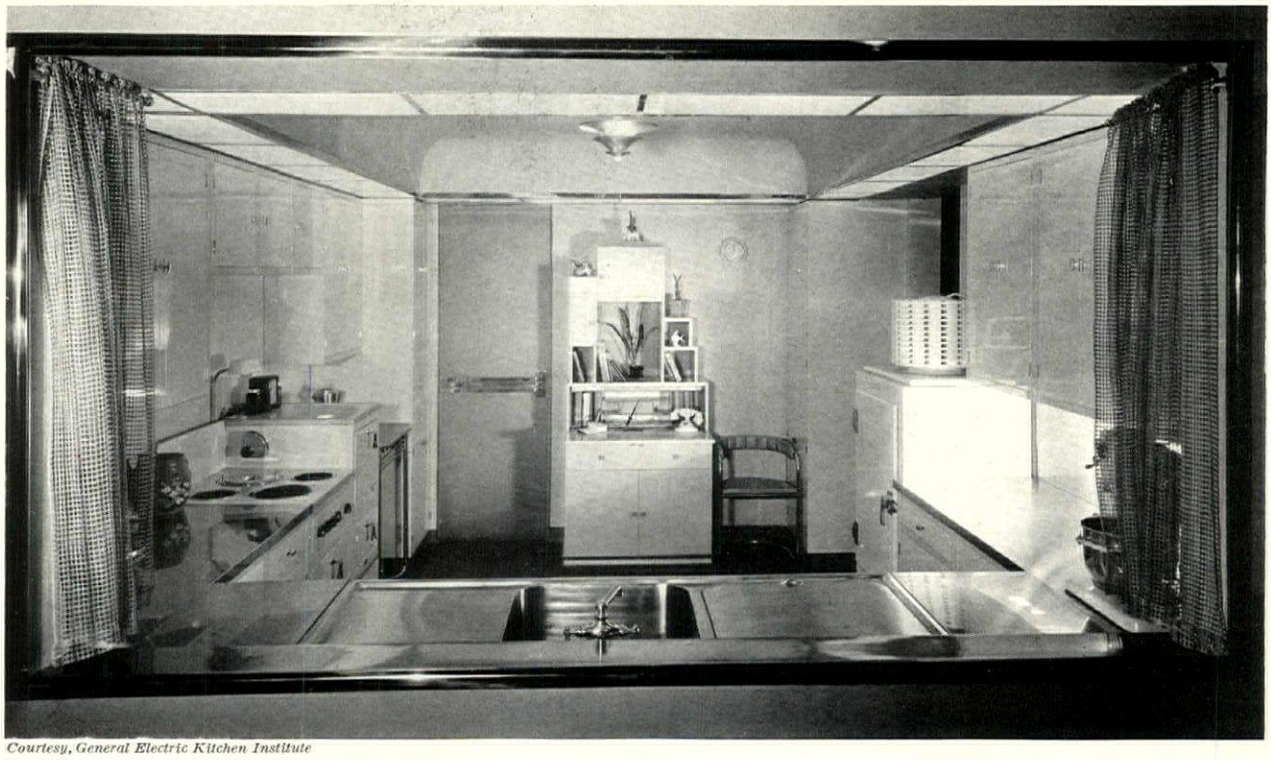
Four types of insulation being installed. (1) Soft blanket type being fastened between studs; (2) the plaster board type which takes the place of lath; (3) an insulation combined with a metal lath being plastered; and (4) spraying in a filler insulation between studs

5. Electrical Work — Communications (A).

Replace all worn lamp cords. Replace old knob and tube wiring with B.X. Install double convenience outlets. New safety house switch. Locate no-fuse circuit-breakers in kitchen. Install safety fuse on outside line. Separate lighting and power circuits.

Electrical Work — Communications (B).

Relocate switches for more convenience. Two-way for house and garage. Three-way up and down stairs.



Courtesy, General Electric Kitchen Institute

Looking through the window at a model kitchen showing ideal conditions. The work center is well arranged and placed near the door with chair convenient. The kitchen shown is completely electrically equipped and has an abundance of cupboard space

Add more outlets: vacuum cleaner in halls, bookcase lighting, dining table convenience, kitchen, bathroom, reading lights at beds, closet lights, low voltage outlets for bells, buzzers, toys.

Install conduits or metal baseboard raceways for wiring during remodeling. Conduits for telephone extensions, for supplementary circuits.

Conceal all radio wiring. Remote control for radio, built-in loudspeaker.

Install domestic circuit breaker, dispense with fuses. Provide safety switch boxes. Provide lightning arrester.

Light gate, garage. Pilot lights on switches where needed. Two-way switches house and garage. Three-way switches up and down stairs. Night lights in baseboards where needed — child's room, along stairs. Burglar floodlighting of grounds switched from master bedroom.

Annunciator — front and back door, dining room, service.

Provide electric range, dishwasher, clothes washer, mixers, grinder, plate-warmer, clocks, etc.

Lock-switch on post beside drive for garage door control. Photo electric cell control of garage doors and lights.

Cove, indirect lighting of rooms. Tube lighting. New fixtures.

PLANNING — ALTERATIONS AND ADDITIONS

PLANNING FOR SUNLIGHT (A).

Replace porch roof, window hoods, with movable awnings. Add terrace.

Change use of rooms to get more sun where needed. Enlarge area of windows opened for direct sun.

GENERAL PLANNING (B).

Combine rooms for more space. Change use of rooms for better outlook, convenience and efficiency. Make unused space livable — basement or attic recreation or playroom, attic bedrooms (wallboard and battens finish).

Increase efficiency of plan by altering location of partitions, doors, built-in features. Objectives: cut down waste space and halls; better arrangement for use; eliminate interference of door swings; plan for location of large objects, such as pianos. Enlarge rooms, add bay windows, gain space by reconstruction in more efficient new materials.

Build additional rooms, porches, terraces. Enclose or partly enclose porch. Eliminate changes in level — gains in ceiling height are offset by bother of steps. Convert pantry into breakfast nook or den. Service access should be direct for outdoor dining.

Awnings, fabric screens make unused flat roofs useful. Make unused flat roof off bedroom into sleeping porch or nursery. Screen, protect from north, at least two sides open.

Convert large closet or unused space into dressing room or additional bathroom (shower and short seat tub). Add another bath by repartitioning. Add linen chute; hall or bedroom, kitchen, laundry.

Openings: Add vestibule to former direct entrance. Waterproof floor. Study need of new or changed entrances. Cellarway. Dutch door.

Study efficiency of plan (wall space and lighting) with respect to window locations.

French doors or tall windows to floor in place of former short sash. Replace multi-paned sash with single, more easily cleaned plate glass where style and scale permit. Very large plate glass windows may be mechanically or



Courtesy, General Electric Kitchen Institute

While many kitchens cannot always be remodeled to be as complete and modern as the one shown in this view and on the opposite page, most of them are susceptible to step-saving planning and more efficient equipment as indicated in the check list

electrically operated. Pivoted double-hung windows for easy cleaning and 100 per cent ventilation. Sliding frames or sliding casements for long horizontals.

Provide corner windows for more light and better view. Build dormers, skylights, or set in heavy glass "shingles" to improve attic. Use ventilating panes or still ventilators for air in inclement weather. Double glazing, dehydrated panes, glass blocks.

Screens permitting casement control; hinged with hand opening, rolling or sliding. Venetian blinds: heat reflecting and light diffusing.

Metal frame basement windows, small panes, locked with slight opening for security. Metal roll shutters outside windows for protection of unoccupied house.

Plant windows: Face south, toplight, double-glazed, heat and ventilation, bench with drain. Access to usable roof — might be through skylight.

Work centers: Study plan efficiency. Objectives: improve orientation and outlook; eliminate waste space and movement in household functions; enable worker to oversee children at play; permit simultaneous activities and responsibilities; provide easy access to front door, telephone, toilet, furnace room.

Kitchen: New range, electric, gas, automatic time control, heat control. New sink and drainboards. New service faucet, soap dish, etc. Mixers, grinders, toasters, coffee makers, etc. New mechanical refrigerator. Ventilating fan.

Adapt kitchen to standardized sectional cabinets. Have working surfaces continuous, well-lighted, about 34 in. from floor; with continuous shelves and cupboard space above and below. Toe and knee room under all equipment at which worker must stand or sit.

Plan range, serving table, preparation table, food storage and waste disposal in relation to water supply. Sink drainboard to left for right-handed worker, surface to right for stacking soiled dishes. Shelves over sink for often-used articles and staples. Dish cupboard over drainboard. Towel rack. Pop-up waste and spray dishwashing connection through mix faucet.

Power dishwasher. Dish and glass washing sink in pantry. Range near sink rather than refrigerator. Electric range requires special wiring. Vent hood with separate flue over range or gas stove. Wheeled preparation table (serving). Door width. Pass cabinet for service to dining room.

Dumbwaiter for service or fuel. Screened cabinet for cooling foods. Oven regulator. Marble slab for pastry making. Package or milk receiver. Built-in broom closet, accessible from but preferably not in kitchen.

Food storage: Cartons, cans, fruits. Vegetable storage near sink, controlled non-freezing outside ventilation.

Refrigerator away from heat, clearance above and behind except for type with compressor on top. Add incinerator (not house heater), kitchen chute, screened flue. Drain and outside ice door for ice box. Underground garbage receptacle.

Business center with keyboard, pencil sharpener, pad, writing surface, telephone extension, clock, cookbooks, filed recipes and bills. Swinging door between kitchen and dining room.

Laundry: Sunlight and good ventilation. Easy access to drying yard. Interior drying — gas or electric drying chamber with flue.

Washing machine (outlet, water connection). Laundry trays or tubs. Floor drain. Water supply over gas plate or stove for heating water. Built-in ironing board (outlet).

Cupboard for iron, cord, soap supplies, bottle sprinkler. Wringer or centrifugal drier. Ironers or mangles.

Possibility of combining laundry with sewing room or with larger bathroom having separate toilet enclosure, to reduce total area and cost of plumbing.

Sewing room: North light. West for morning use. East for afternoon.

Sewing machine table (outlet) right angles to window. Cutting table. Cabinet space for accessories, small articles. Wide drawers for materials. Closet for garments in process, dress form. Long mirror on outside wall. Built-in ironing board (outlet). Place for iron and cord. Out of season garment storage, mothproof. Extra book shelves — room may be study or second floor sitting room. Door bed for extra sleeping quarters.

Basement: Fuel storage (near heater) and access. Coal chute, waste removal, ash and trash hoist. Headroom, under girders and pipes, on stairs. Paint stair to prevent stumbling, or door switch light. Install chimney ash pit and cleanout. Work bench, gas and electric outlets. Coal room, preserves, wine cellar.

Built-in Features and Other Conveniences: Built-in book cases — part of room design. Built-in furniture, well placed, increases efficiency of plan by saving space, cleaning, and for quality work is less expensive. Door beds, vertical or horizontal and vertical swinging, permit double use of space. Disappearing stair to attic.

Folding partitions and walls, fabric covered, metal frame, may be trackless and guideless, disappear into wall or form "drapes," permit easy subdivision of space. Receding "telephone booth" doors for tight corners.

Add fireplaces to living spaces. Built-in firewood storage (dumbwaiter service) chest or hinged seat. Build in small safe.

Full length mirror in bedroom, bathroom. Best on window wall. Built-in desk with disappearing typewriter. Built-in scale in bathroom. Soiled linen bin in bathroom.

Provision for home movie projection: Outlet, stand for projector placed at proper distance from proper sized screen. Cabinet for storing equipment, small room for storing and servicing.

Bathroom accessories: razor blade disposal, recessed soap, tumbler holders, toothbrush rack, towel racks, hot water bag hooks. Non-splintering glass for table and dresser tops. Concealed door checks.

Breakfast nook should not lengthen service access to dining room. Mail box — letter slot in door or built-in box. Lay impervious, easily cleaned floors.

Storage: Coat closet near front entrance, hat shelf, hanger rod, low hooks for children, places for umbrellas, overshoes. Storage space with outside entrance for trunks, boxes, baby carriage, bicycles, wagons, garden tools, other outdoor sport equipment.

Planned clothes closets: one in each bedroom or one for each individual. Properly sized compartments (drawers, hanger space, cupboards, open shelves) for each type of garment and accessory. Closets may be lighted from above glass ceiling if glass shelves are used.

Linen closet near bed and bath rooms, preferably hall, with places for each type of household linen. Second floor cleaning equipment closet in hall.

Bathroom cabinet with mirror door in furred-out wall over lavatory. Bathroom storage closet for soap, towels, toilet paper, larger bottles. Ventilated bathroom closet (louvered door) for toilet brush, tub brush, hot water bags, cleaning cloths.

Storage closet for out of season garments, miscellaneous storage, keepsakes. Blanket or comforter chest, built in drawers or shelves. Build cedar closet or line old closet with cedar.

Space for table leaves. Drawer space for table linen and silver. Cupboards or display shelves for dishes and silver pieces not in every day use. Cupboards (under book shelves) for children's toys. Closets for sport equipment and games, card tables.

Music cabinet or closet: records, rolls, sheet music. Paper and magazine rack. Filing space.

Appearances: Study possibility of vistas through rooms, and other space-giving features. Compose furniture, built-ins, with windows and doors.

Interior Decoration: Plan style of period changes. Color schemes. Repaint or paper interiors. Washable, plastic paints, new wall coverings. Paint bathroom, kitchen and laundry ceilings and walls. Calcimine other ceilings. Refinish trim, windows and doors.

Scrape and refinish floors. Oil exterior wood floors and thresholds. New floors, wood, cork, rubber linoleum, tile, etc.

Buff or polish hardware. New hardware.

Paint or bronze radiators and exposed piping. Radiator covers. Paint the receptacle and switch plates, lighting fixtures, to match trim or wall. New fixtures for style or efficiency. Whitewash cellar. Paint inside garage.

Interior Fixtures: Renew drapes, curtains, shades, floor coverings.

Remove antiquated trim, mantelpieces, wall moldings. Change height of mantel, size of fireplace. Replace interior doors with better designs. Replace balusters, railing, moldings on stairs. Replace lighting fixtures with better designs. Replace old colored glass windows.

Exterior Appearance: Study color and style features, walls, trim, roofs. Eliminate faked and redundant *motifs*, trim, materials. Improve slope of roof. Repaint exterior. Clean brickwork or stonework. Sandblast.

Exterior Conveniences: Garage: Attached to house or separate. Fire protection. Relation to house for easy access, covered way. Door may be rolling metal or wood, bi-folding, or other overhead type, manual or automatic operation. Floor drain, sufficient light, water, heat, work bench.

Driveway, turnaround, porte cochère. Walks. Footscraper at front entrance. Sinkage for mats. Install drying tree — provide drying yard.

Shade or screen planting where needed. Outdoor living room. Play-yard with swings, slides, sand box, seesaw, etc. Open shelter or playhouse for use during showers.

Landscaping: Plant or transplant trees, plan for flowers, shrubbery, to assist composition from street, view from living spaces.

Grade, screen and seed for new lawn.

Plant borders or other flower beds.

Build or repair and repaint fences, gates. Build trellis or arbor.

Provide flower boxes, bird bath, bird houses, sun dial, garden seats, small pool, dog house. Add greenhouse.

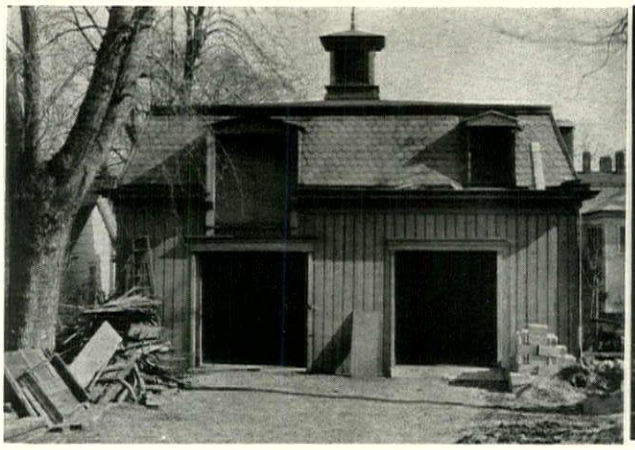
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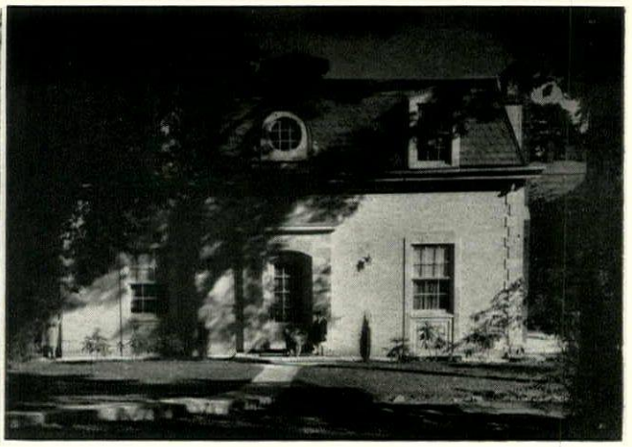
BEFORE & AFTER

FOLIO



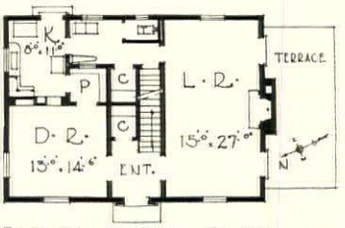
THERE can be no standardization in the remodeling of a house. Here certainly is real opportunity for architectural ingenuity to solve an individual problem in a manner best suited to the client's own particular requirements. On the twenty pages that follow are presented fifteen remodeled residences that forcefully portray the scope of reconditioning possibilities



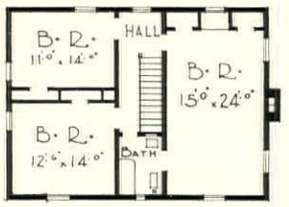


HOUSE OF MR. & MRS. RICHARD D. CURRIER, MONTCLAIR, N. J., JOSEPH B. WERTZ, ARCHITECT

A USELESS old stable becomes a comfortable and attractive dwelling at a cost of $9,500. The building was remodeled for an investment and the architect, by acting also as the general contractor, saved his client over $1,500 from the low contract bid. The exterior is of a flush wood siding painted light cream. The door enframement and the quoins are of zenitherm. The roof is slate, taken from the original building. The interior is finished with painted plaster on insulating board. Woodwork throughout is of painted white pine and the floors are oak except in the kitchen and bathroom where linoleum has been laid. The house is heated by a low pressure steam system



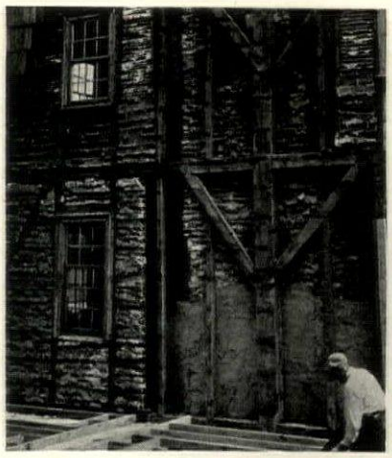
·FIRST FLOOR PLAN·



·SECOND FLOOR PLAN·

"THE HOMESTEAD," REHOBOTH BEACH, DELAWARE, W. S. CORKRAN, ARCHITECT

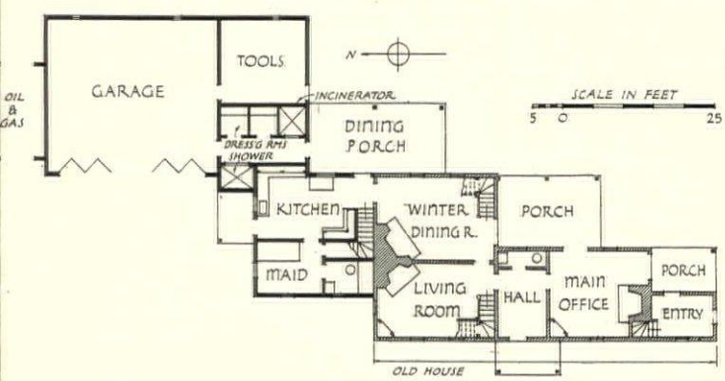
FEW houses in America have attained the age of this venerable homestead. It was built 187 years ago of a solid and rough-hewn walnut frame mortise-and-tenoned and secured with wooden dowels. The walls — even the interior partitions — are lined with ancient brick, and all the paneling of the interior was made by hand. In the process of remodeling no flavor of the original design has been lost, and the new wing (shown solid on the plans) is an admirable adaptation of the style. The old structure has been thoroughly modernized at a cost slightly under $13,500. The exterior has been faced with old, weather-worn shingles, and the roof covered with red cedar shingles 18 in. long. The woodwork of the interior is of painted white pine and the floors throughout are of boards laid in random widths of 10 to 18 in. The hardware is of old Colonial workmanship and the house has been furnished with pine antiques

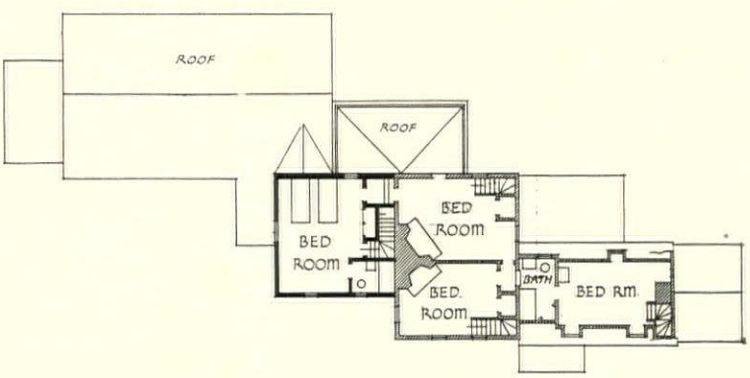


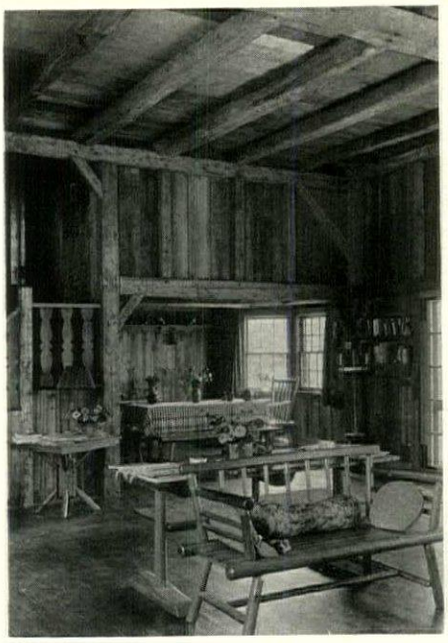


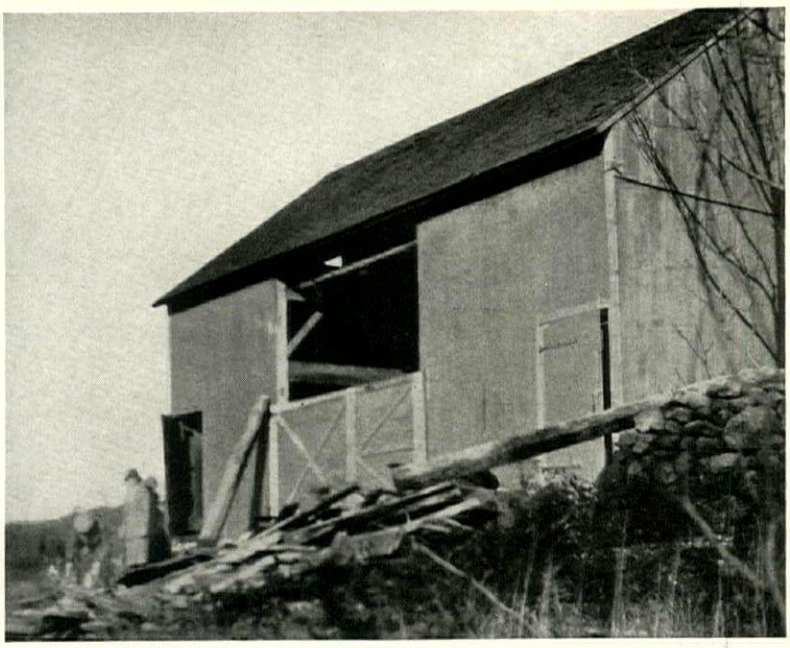


At the top of the page are pictures of the old house. The one at the right shows it as the architect found it, and at the left is a portion of the wall showing the framing and the brick wall lining. Directly above is the finished alteration with the new wing at the left

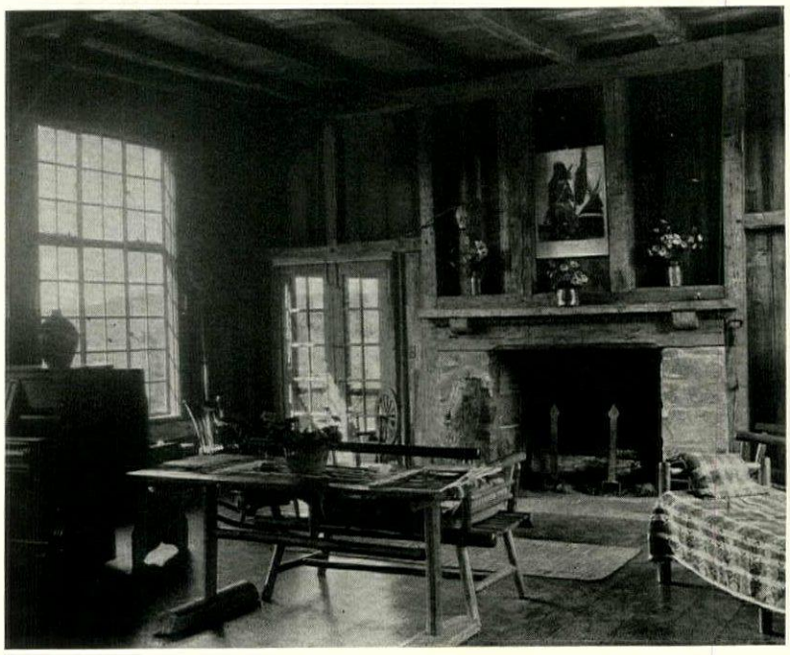


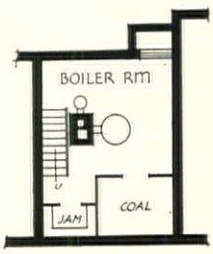


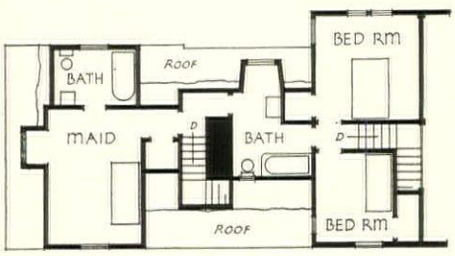


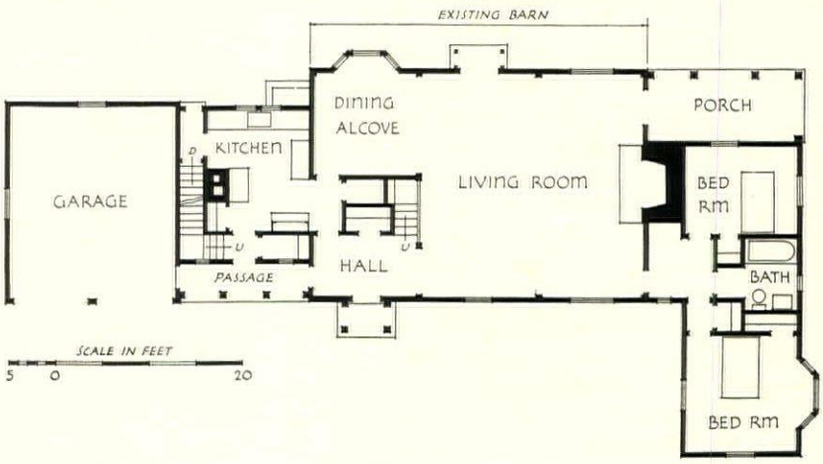


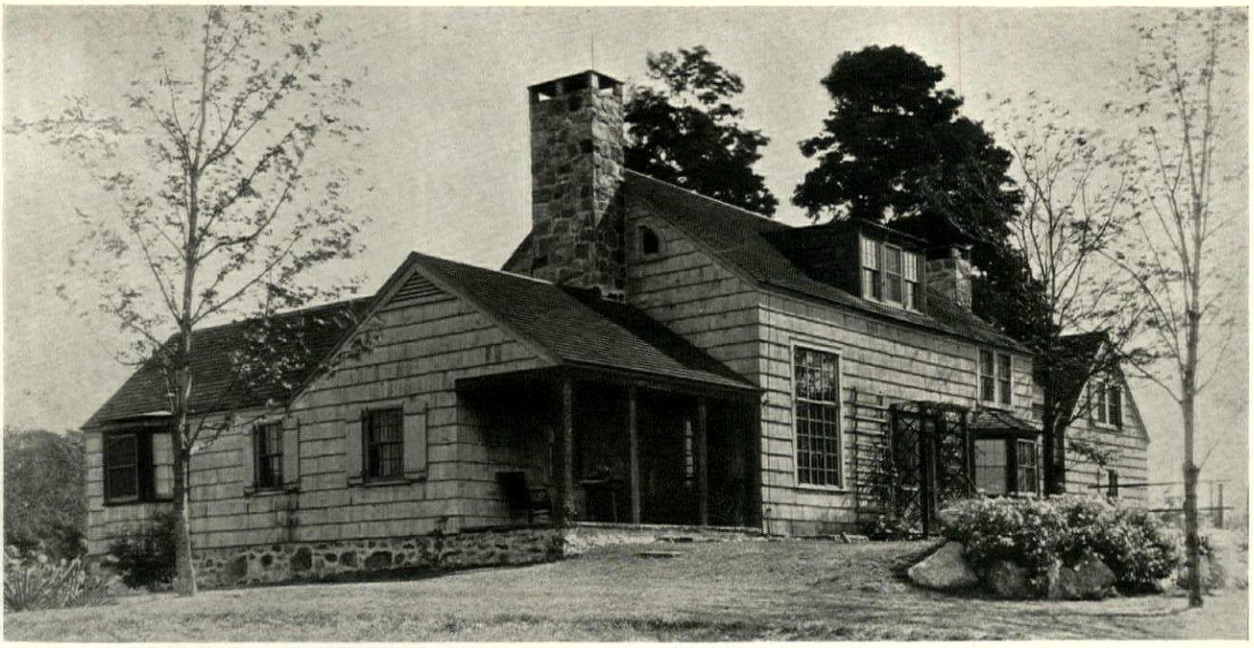
Above is the dining alcove end of the remodeled living room, and below at the right is a view of the fireplace on the opposite wall. These two sides of the living room mark the boundaries of the old barn shown above at the right













Much may be learned of remodeling possibilities by comparing these two views of the finished house with the original structure. It is noteworthy that remodeling operations must often embrace an alteration of the landscape as well as a redesign of the structure itself

THIS house is a particularly interesting example of what may be accomplished when imagination and skillful planning are applied to an alteration or remodeling problem. The finished house illustrated here was built about the old barn shown at the top of the opposite page. Though seemingly in a half ruinous condition, the timbers of the old structure were entirely sound and have been used for the framing of the new structure. The chimneys, of course, and most of the foundation are new but have been constructed entirely of local rubblestone. This remodeling operation was not a particularly inexpensive one as it included practically all the mechanical equipment necessary in a new house. It is, however, indicative of the possibilities that are inherent in old and seemingly useless structures

HOUSE OF ROBERT J. BENDER,

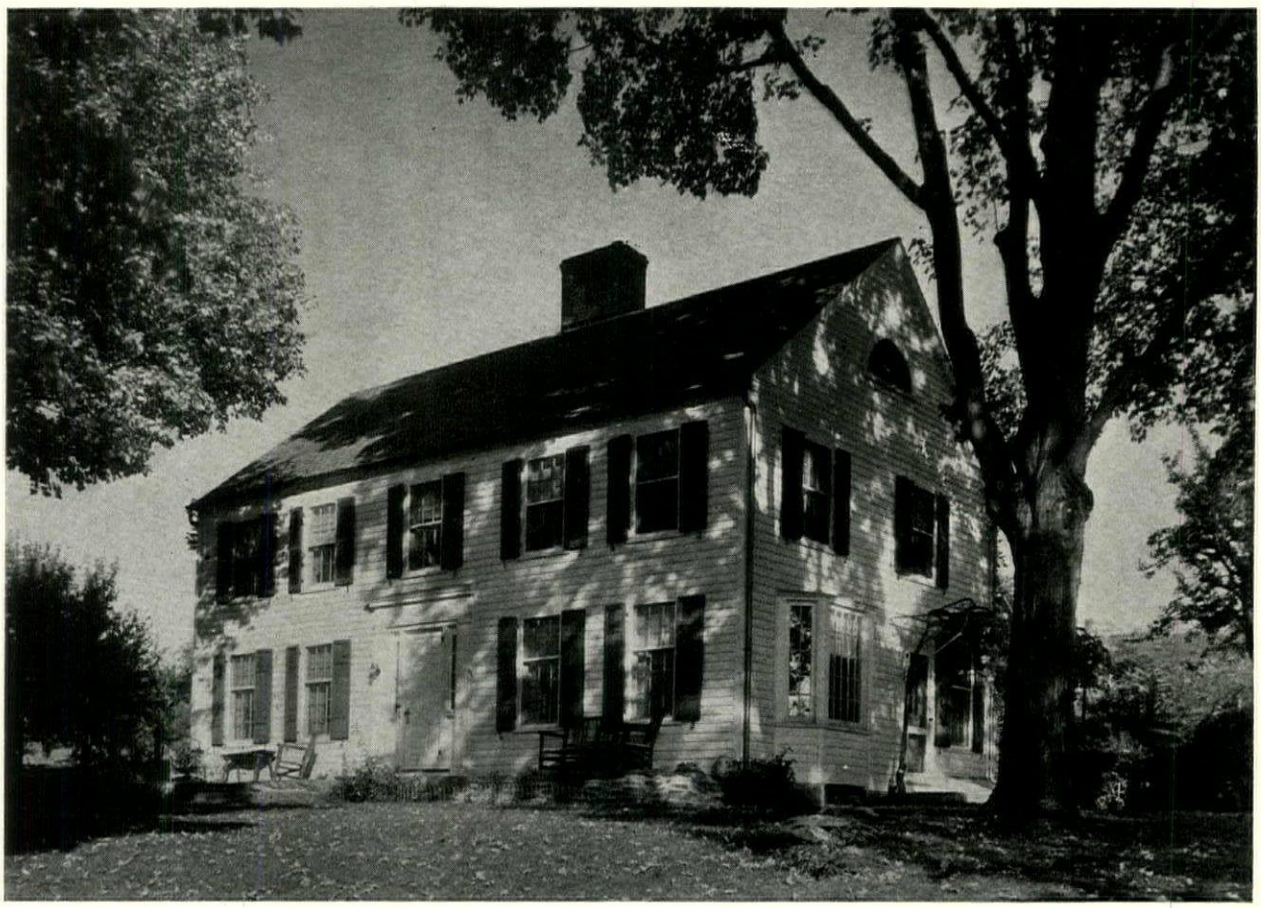
POUNDRIDGE, NEW YORK,

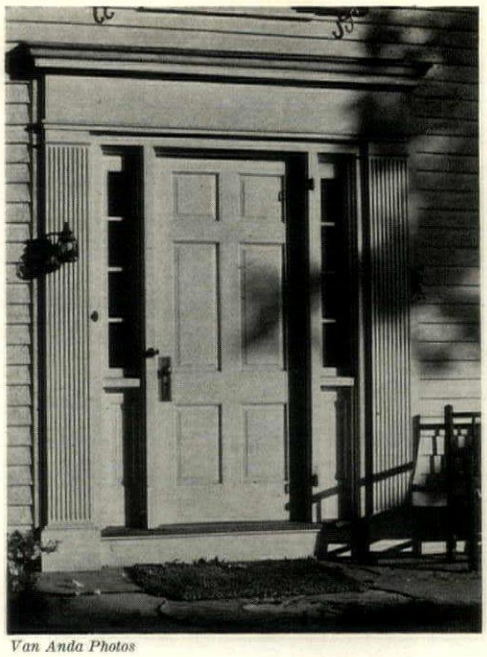
DONALD G. TARPLEY, ARCHITECT



Van Anda Photos

Above is the original dwelling and below is a view of the house after alteration. On the opposite page is a detail of the new front entrance and the interior of the remodeled living room, showing the new fireplace







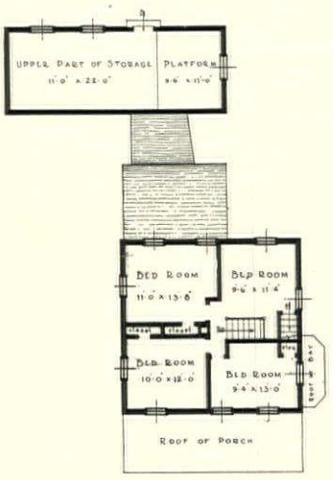
Van Anda Photos

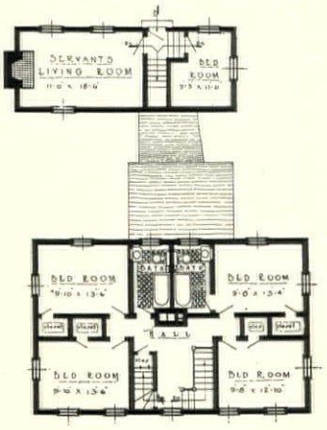
HOUSE OF FREDERICK MYGATT,

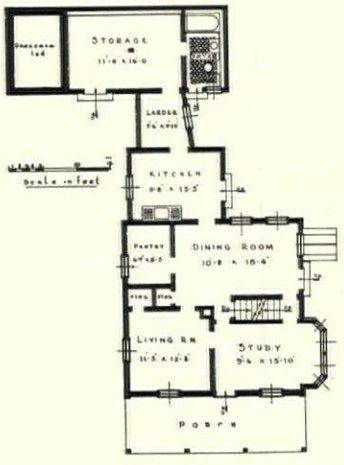
MARBLEDALE, CONNECTICUT,

WALDRON FAULKNER, ARCHITECT

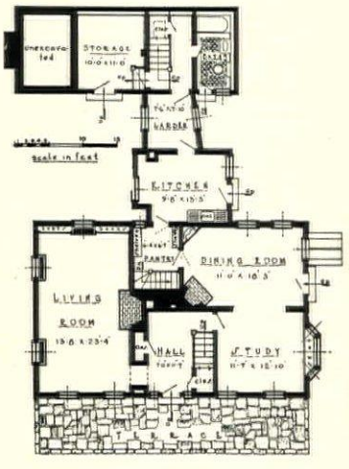
THIS remodeling of a nondescript house is representative of a vast number throughout the country. The original structure shown at the top of the opposite page may be seen in almost any locality, and the architect's problem was to redesign the building to satisfy his client's desire for a home in the early New England tradition, with a minimum of new construction. The remodeling operation cost approximately $10,000. Though there were few radical changes in the main structure of the original dwelling a study of the new plans shown at the extreme right and a comparison of the two pictures on the opposite page will indicate how economically the money was used







Before Alteration



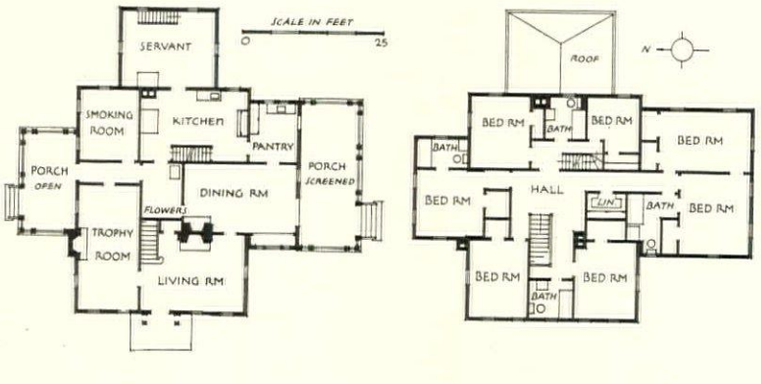
After Alteration





At the left is a view of the old house taken from the entrance drive. Above is the finished alteration taken from the rear on the same side

HOUSE OF MRS. WILLIAM H. GOOD, NEW CANAAN, CONNECTICUT, EDWIN DENBY, ARCHITECT



In the remodeling of this old farmhouse the architect was charged with increasing the cubage of the building and including a trophy and smoking room as important spaces on the first floor. An adaptation of the colonial style was chosen as best fitting the traditions of the locality, and the exterior has been finished with painted clapboard, a green asbestos shingle roof and a brick and rubblestone foundation. The house was designed as an all year-round country residence and has been insulated throughout with a rigid fiber board. The heating system is steam, generated in an oil burning boiler. The alteration was handled under a general contract in the usual manner at a cost of approximately $50,000



Knell

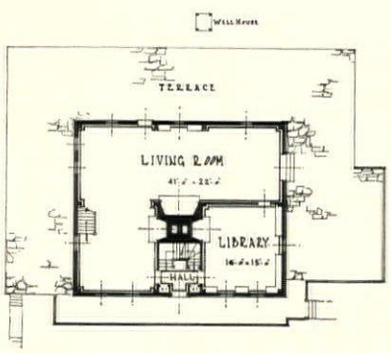
These "before and after" pictures are taken from the same spot at the rear of the structure. The land rises abruptly to the front of the house which faces the entrance drive

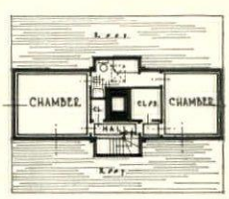


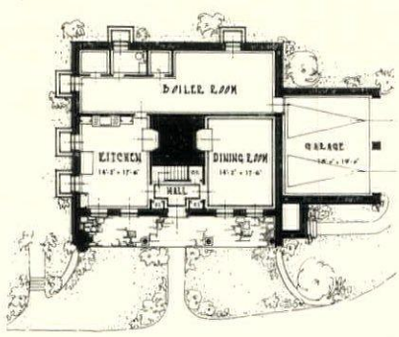
Smedley

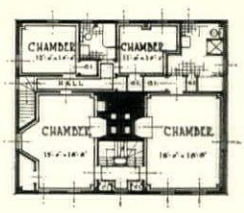
HOUSE OF DR. JEROME WAGNER, OLD LYME, CONNECTICUT, G. HARMON GURNEY, ARCHITECT

THIS remodeled house conforms in every important construction detail to the original (an old eighteenth century tavern) and the remodeling operations have been confined almost entirely to a refinishing and general renovation, which included, of course, an installation of mechanical and sanitary facilities. The old house was framed with solid black walnut. The exterior walls were of huge black walnut planks, 2 in. thick, which account in large measure for the building's excellent state of preservation and which were retained in the alteration. The exterior is covered with the original clapboards. The interior has been plastered over insulating board. The cost of the entire operation was approximately $13,000

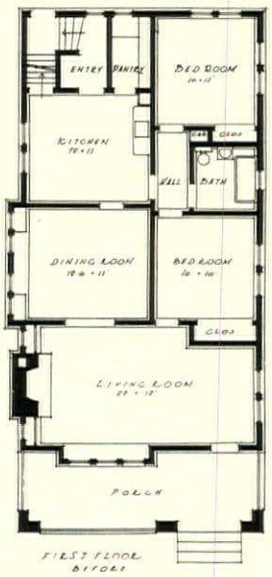




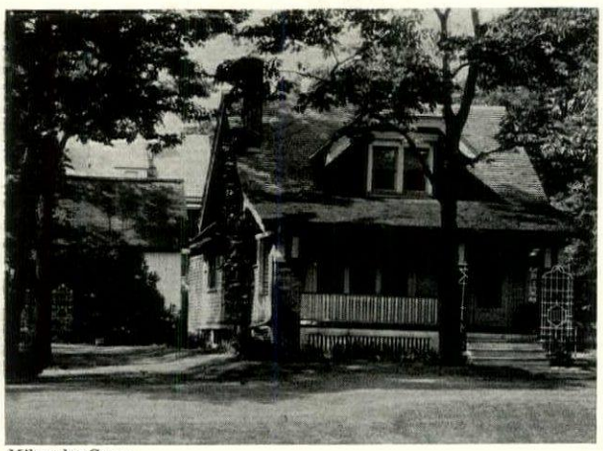




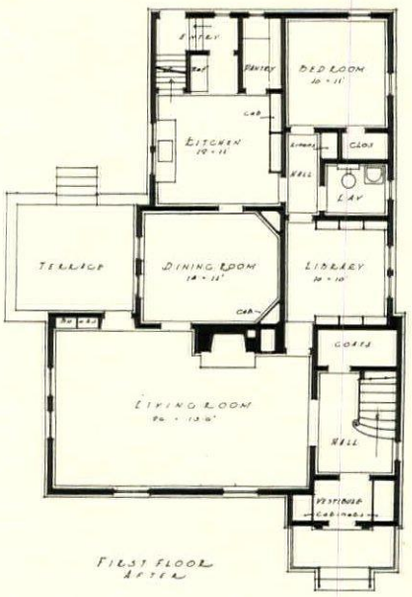




FIRST FLOOR
BEFORE



Milwaukee Comm.



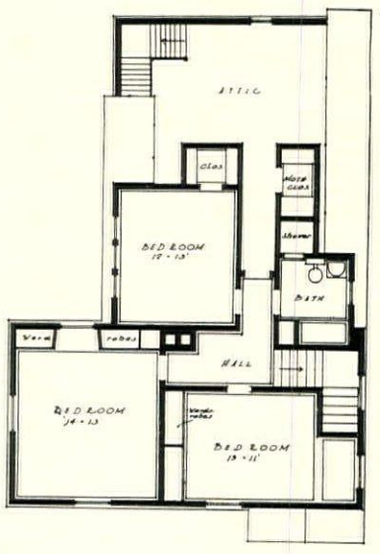
FIRST FLOOR
AFTER

HOUSE OF FRED E. ERIKSEN,

WAUWATOSA, WISCONSIN,

HERBST & KUENZLI, ARCHITECTS

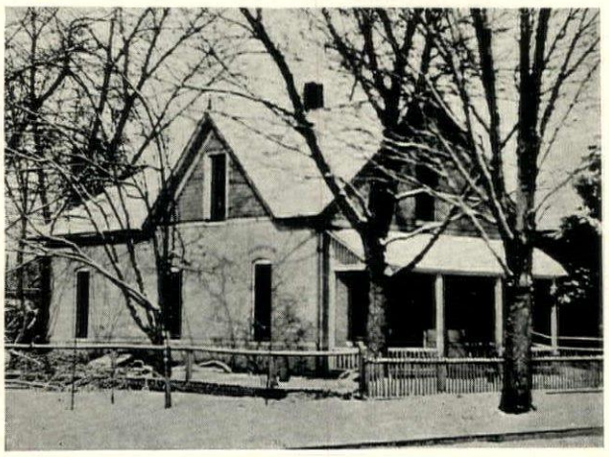
AN EXAMPLE of a successful alteration at the nominal cost of $6,000 which is worthy of close study. A study of the plans will show the economical re-arrangement and addition which produced the finished results shown at the top of the page. In addition to a reconditioning of all the interior finish, the house was thoroughly insulated. It is heated with a furnace having an oil burner and humidifier equipment. The kitchen has been fitted entirely with electrical equipment



SECOND FLOOR

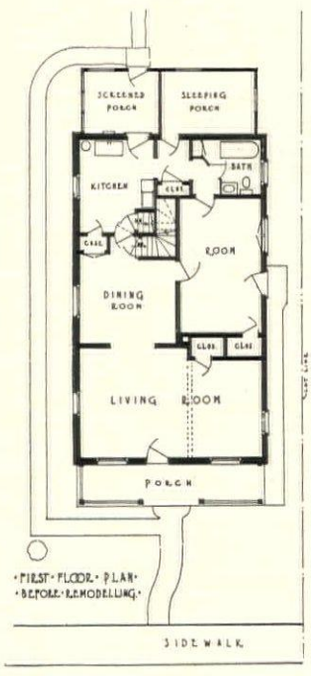


Fisher

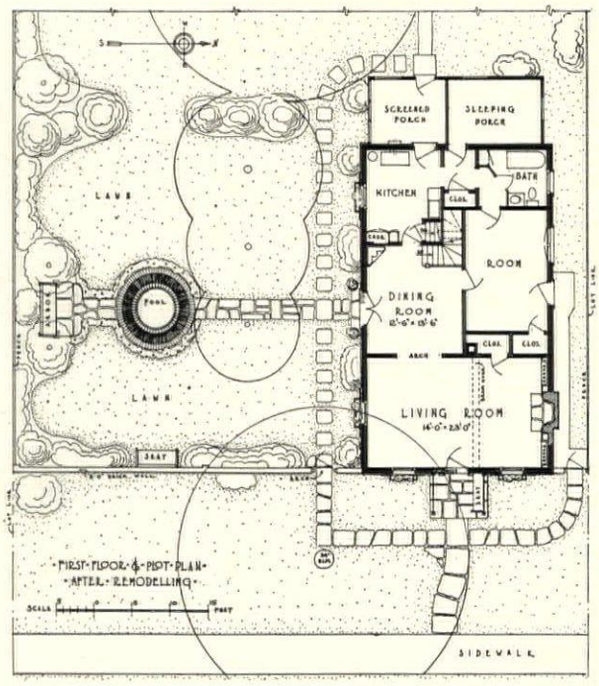


HOUSE OF LUCILE SHORT STINSON, DENVER, COLORADO, JOHN GRAY, ARCHITECT

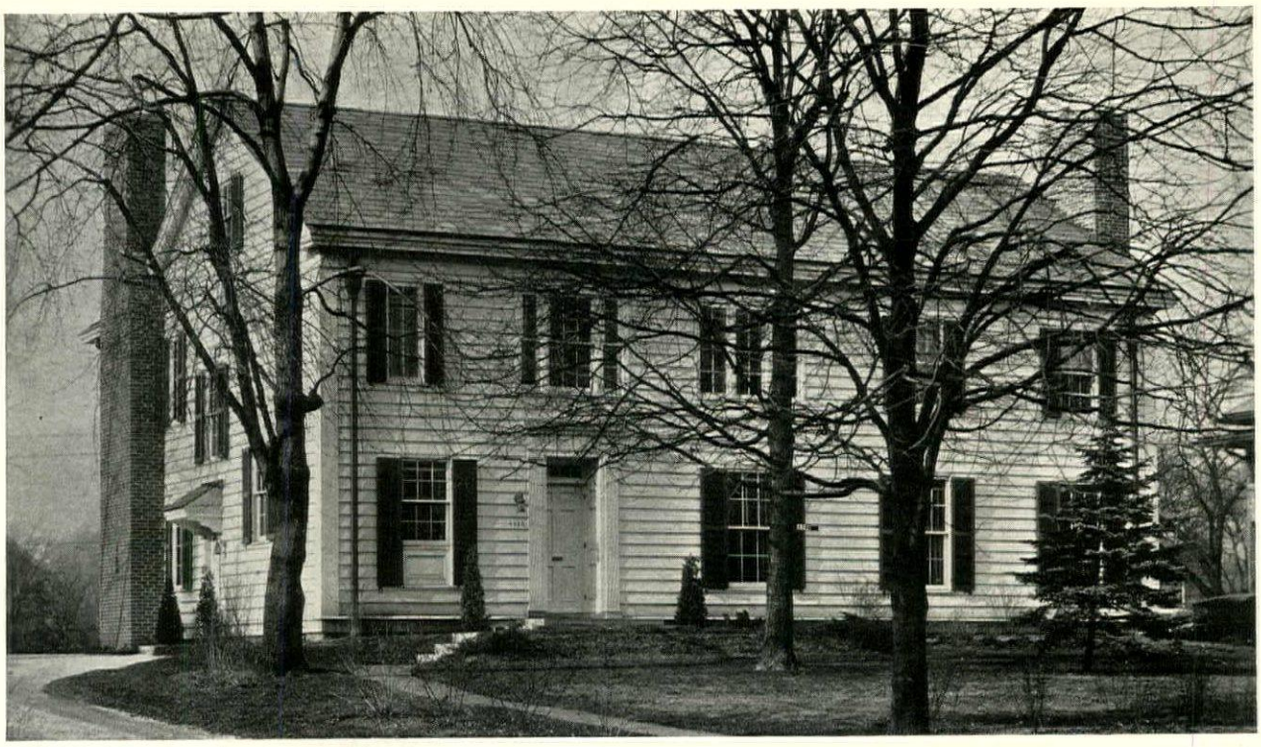
AT THE very low cost of $1,200 this residence was changed from that shown in the lower illustration to the one shown above. The work consisted mostly in the addition of a fireplace in the living room, a revision of the porch and entrance, and the addition of a garden wall. The low cost is due primarily to the fact that short individual contracts were made with unemployed union craftsmen who worked under supervision of the architect. The exterior of the house is of whitewashed brick, with pale green shutters



FIRST FLOOR PLAN BEFORE REMODELLING



FIRST FLOOR PLAN AFTER REMODELLING

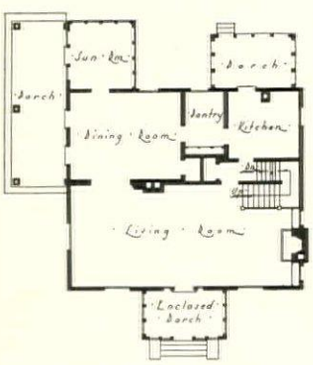


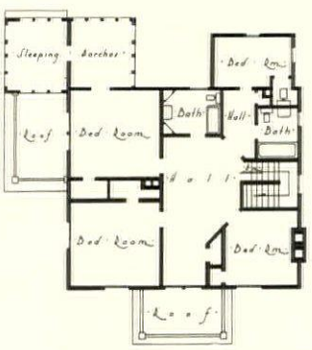


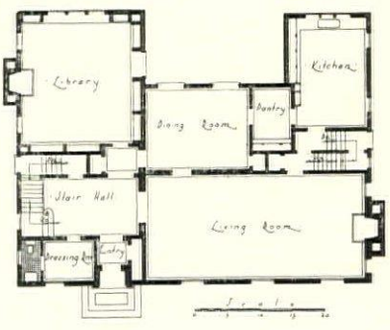
Rhoades

HOUSE OF THOMAS D. SHEERIN, INDIANAPOLIS, INDIANA, LEE BURNS AND EDWARD JAMES, ARCHITECTS

ALTHOUGH this alteration shows a radical change in design from that of the original structure, the significant part of the work is shown in the plans below. At the left are the two floors of the old house. A comparison with those on the right shows the addition of a library and bedroom and dressing room and a conscientious elimination of waste space on both floors. The plans are worthy of close study as being typical of many existing possibilities









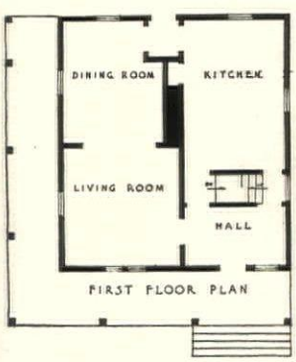


Clark



HOUSE OF DR. C. V. CALVIN, FAIRFIELD, CONNECTICUT, CAMERON CLARK, ARCHITECT

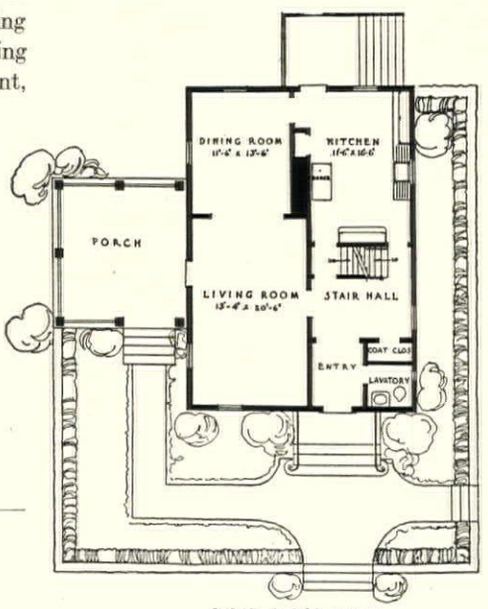
THE alteration of this residence involved a general redesign of the exterior and a general modernization of the interior. The front of the house was extended toward the street and a terrace developed to decrease the apparent height of the house and to provide a better setting for it. This resulted in a larger stair hall and living room on the first floor, the addition of a bedroom and relocation of the bathroom on the second. The bedroom over the living room was also increased in size. The entire remodeling operation, including the modernization of the heating plant, cost in 1930 approximately $7,000



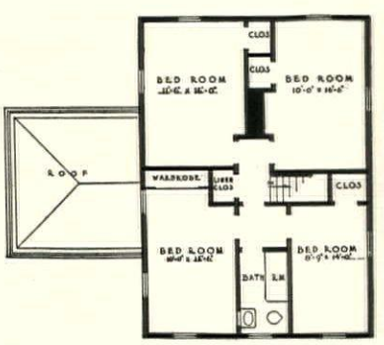
FIRST FLOOR PLAN

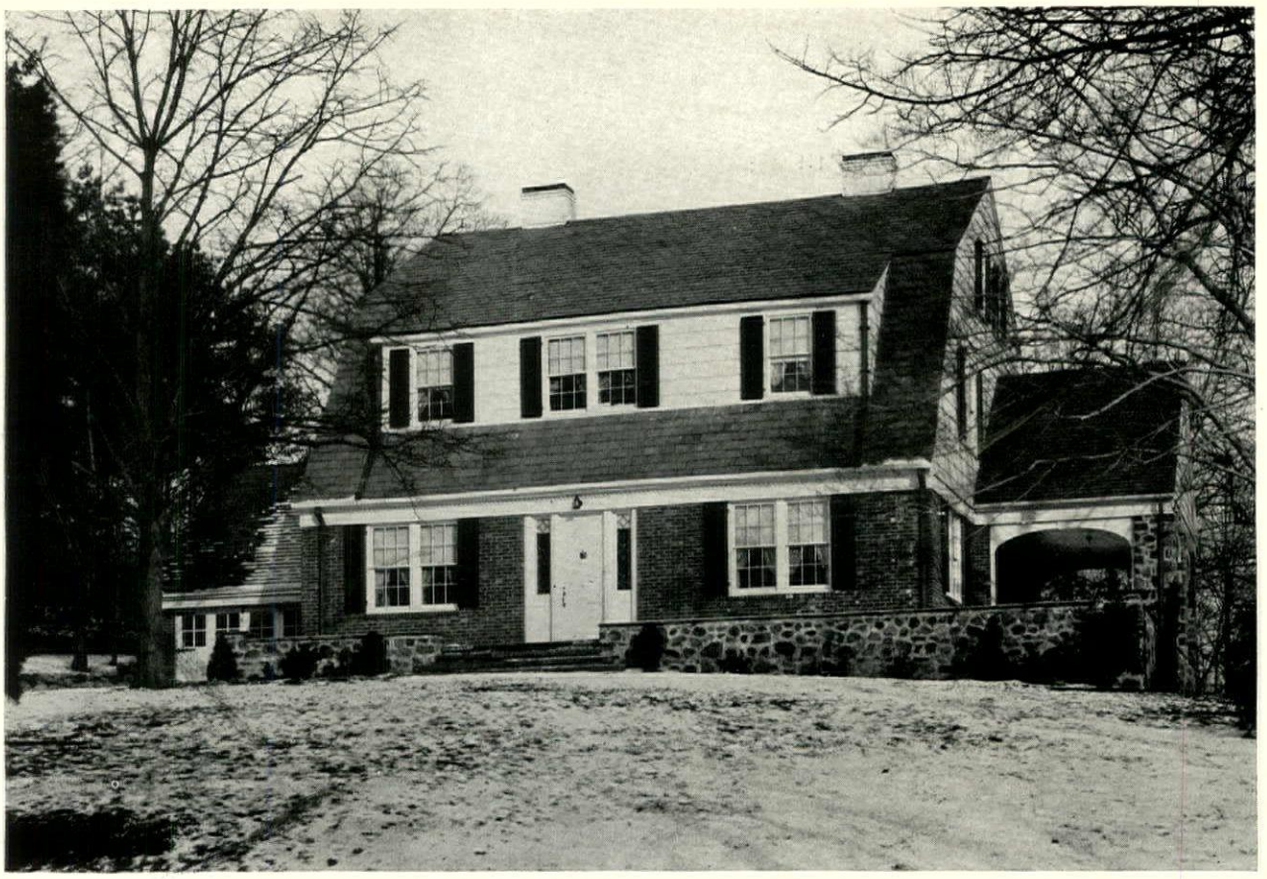


SECOND FLOOR PLAN

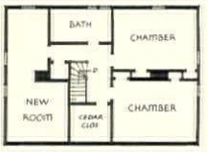


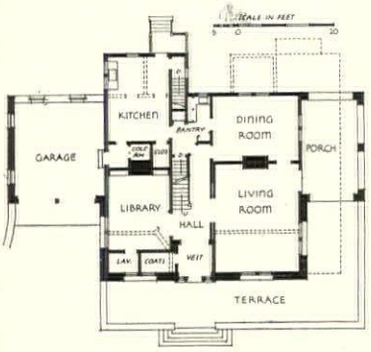
FIRST FLOOR PLAN

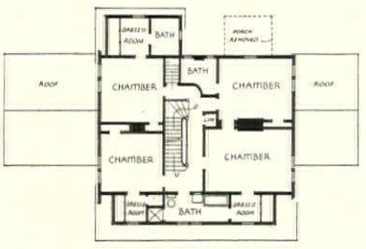












HOUSE OF JOHN R. MONTGOMERY,

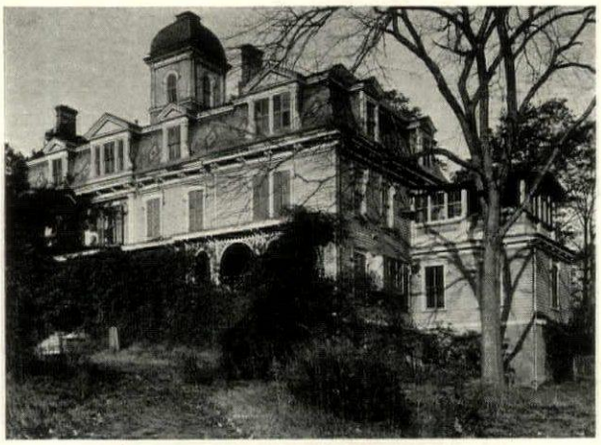
SHORT HILLS, NEW JERSEY,

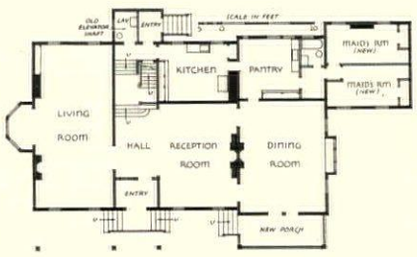
W. S. CORKRAN, ARCHITECT

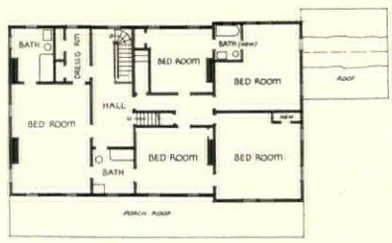
THE exterior of this house has been radically changed, but there was comparatively little alteration to the interior except that a new wall was built several feet in front of the former one to give more space in the hall, living room and library. The porch and garage wings and the terrace are all new additions. The exterior above the first floor is shingled. The interior is plastered throughout and the floors are all of oak. The entire cost of the alteration was somewhat under $24,500

HOUSE OF H. C. BELL, SHORT HILLS, NEW JERSEY, W. S. CORKRAN, ARCHITECT

ALTHOUGH actually the alterations to this house were not extensive, a comparison of "before and after" pictures belies the fact. The entire top floor and tower of the old building were removed, a sleeping porch was eliminated, and the front of the building changed, in so far as was practical within the limits of cost, into an adaptation of the colonial. The exterior is faced with clapboards similar to the original structure. The roof is of slate. The floors of the interior are of oak and pine; the walls of plaster. The cost of the entire remodeling operation was slightly under $17,500



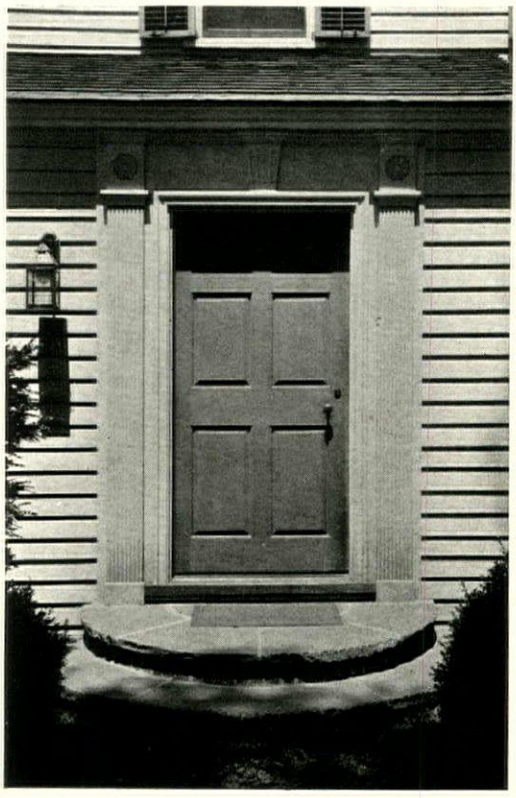








The old farmhouse before alteration, showing the entrance to the kitchen ell and the dining room bay



The new doorway establishes an atmosphere that is well carried out in every detail of the remodeled house



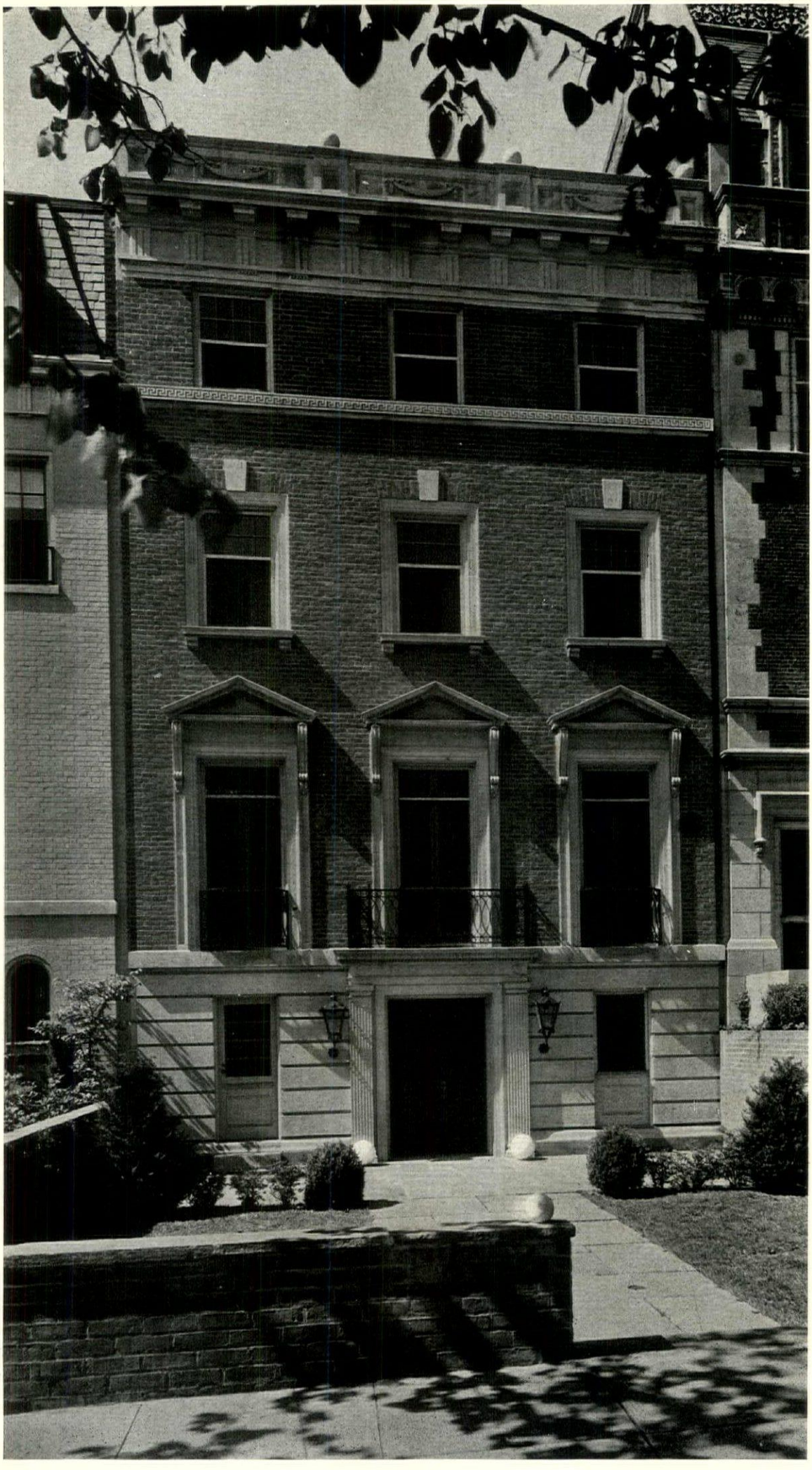
HOUSE OF W. A. BALDWIN,

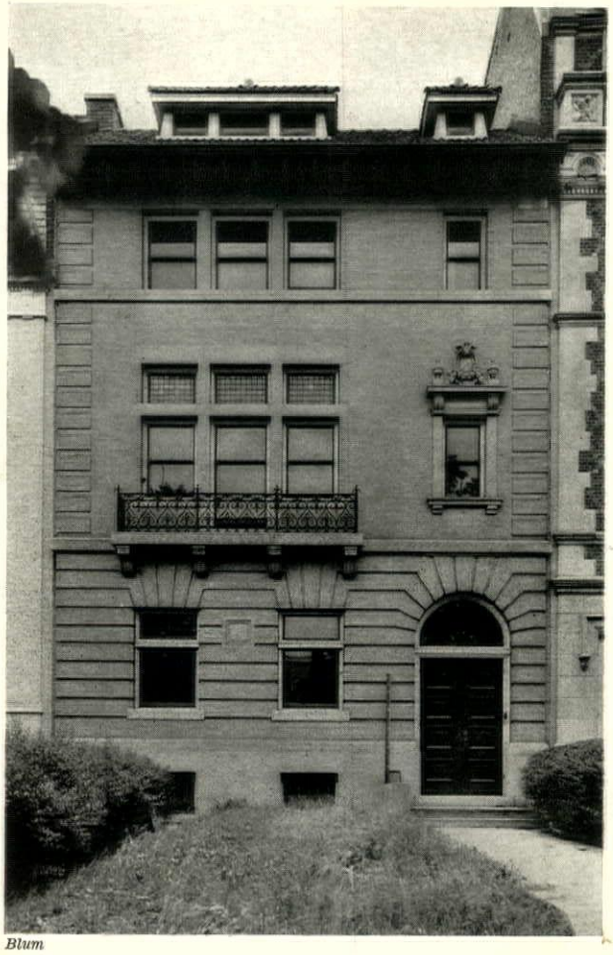
GREENS FARMS, CONNECTICUT,

DONALD G. TARPLEY, ARCHITECT



THE pictures at the top of this and the opposite page show a well-considered and careful development of a typical remodeling problem. The original building was an old farmhouse which has been remodeled into a particularly comfortable country residence. The plans, in which the old work is shown by dotted lines, reveal an intelligent and economical revision of interior space with an addition of a library and owner's room overlooking the terrace and a broad sweep of lawn. In this alteration the architect has taken every advantage given by the natural location of the building. The terrace opening from the dining room and library and the porch on the opposite side of the house are particularly attractive in a country residence of this type



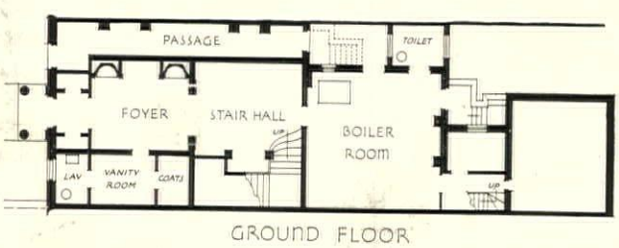


Blum

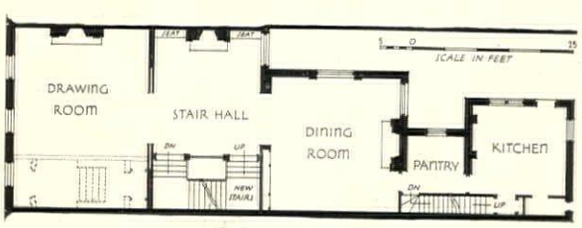
The "face-lifting" operation eliminated this nondescript facade and replaced it with the one of Georgian design shown on the opposite page

HOUSE OF HOFFMAN PHILLIPS, WASHINGTON, D. C., JOHN J. WHELAN, ARCHITECT

On these two pages and the following one are presented two remodeled city residences. They have been chosen as particularly good graphic representations of modernization possibilities that are inherent in a vast number of outmoded structures in almost every city in the United States. Such alterations call for much imagination and skillful planning on the part of the architect, for in almost every case his problem becomes one of interior rearrangement and of redesigning the street façade with little or no opportunity for a change of mass. In the house illustrated on this and the opposite page no change was made in the plan above the first floor. The ground floor shown above was formerly the basement. With the new location of the stairs the drawing room on the first floor was enlarged, and the necessary change in fenestration due to this change more or less established the key in designing the alteration of the façade. Much can be gained from a close comparison of the "before and after" illustrations of this residence. The materials used were brick, limestone and wood and the total cost of the remodeling operation did not exceed $20,000



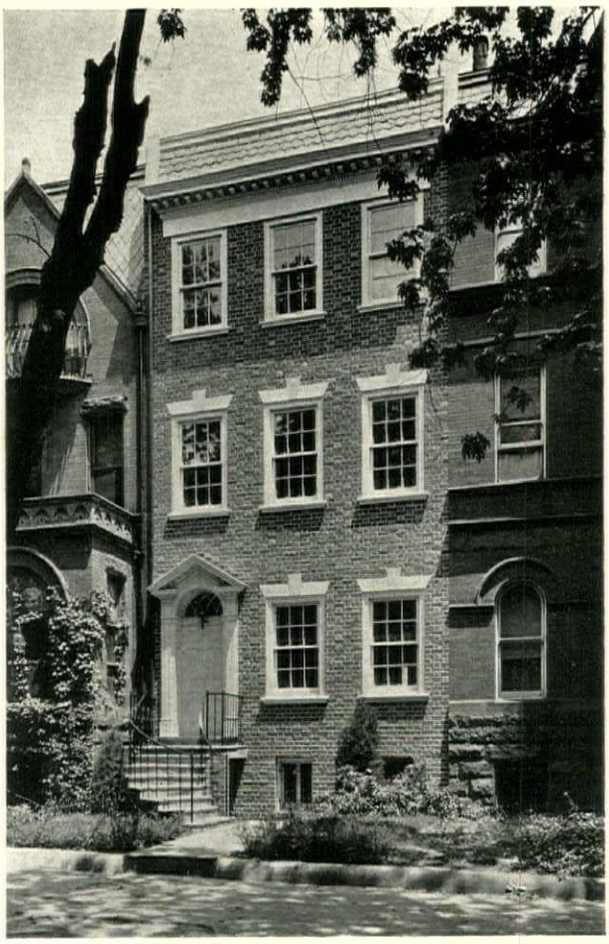
GROUND FLOOR

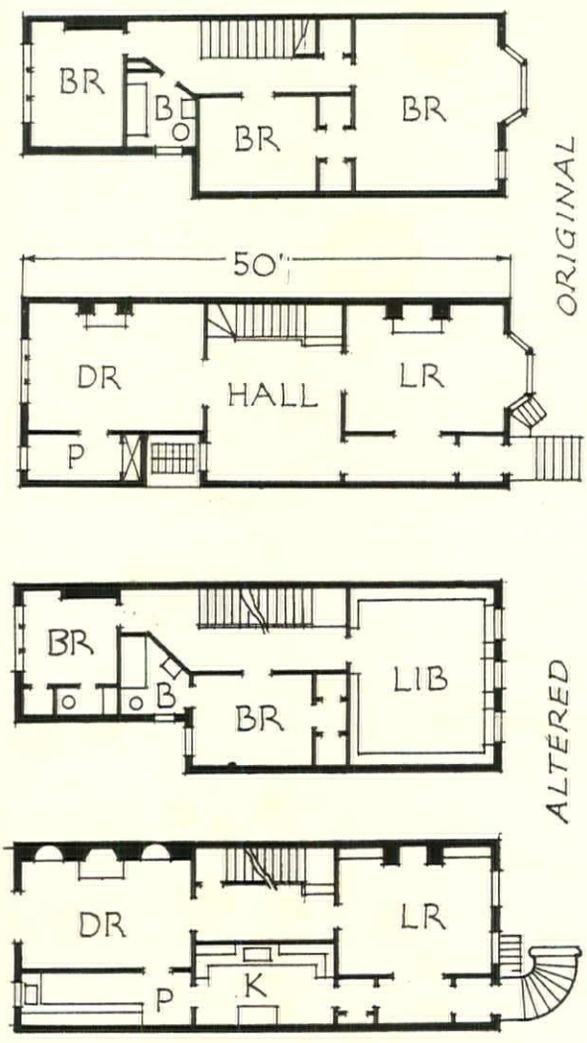


FIRST FLOOR



Blum Photos





HOUSE OF T. H. B. McKNIGHT,

WASHINGTON, D. C.

JOHN J. WHELAN, ARCHITECT

THE basement of this house was left unchanged except that the kitchen (placed on the first floor in the altered plan) was made into a games room. The third floor, also, was not altered. The major revision on the second floor was the transformation of the front bedroom into a pine-paneled library, and on the first floor the elimination of a small areaway made practical the use of part of the old hall for a kitchen. The most radical change — as in the house shown on the two preceding pages — is in the facade. The elimination of the old bay, the use of brick and the simple detail of Colonial tradition were economical as well as an architectural advantage. The remodeling operation cost approximately $10,000. Before it had been completed the house, bought for $7,000, had been resold for $21,500

MODERNIZING METHODS FOR HOTELS AND APARTMENTS

No ACCURATE statistical survey is yet available regarding vacancies in hotel and apartment buildings that are due to outmoded arrangements of space or the obsolescence of equipment. Moreover, it would be a difficult thing to establish. Building obsolescence is not always entirely the result of physical deterioration. Particularly in the case of apartments, it may be due largely to the shift in public attitude toward what is (at least to the average American) a temporary housing expedient.

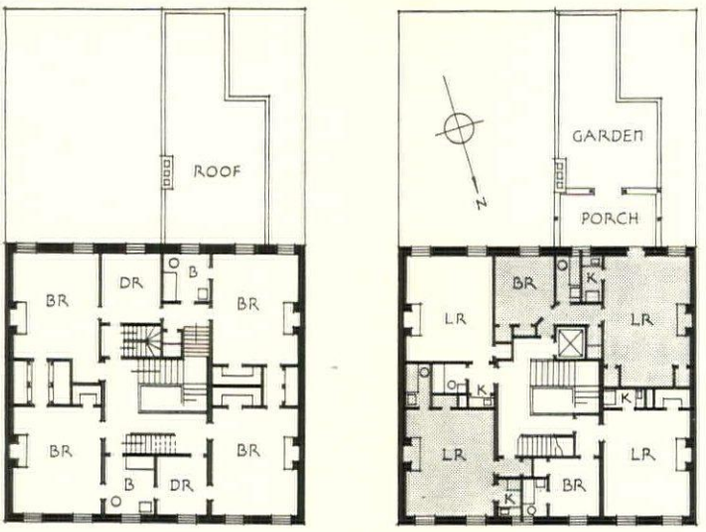
Tenants today are demanding in hotels and apartment layouts, equipment and even prices that are radically different from the common practices of only a few years ago. The servant problem, the economic and social changes in living conditions and the increased pressure of city congestion have dulled a general desire for apartments of many rooms planned primarily for "real family life." In place of this has developed the demand for compact space, economy of operation and efficiency of equipment to conserve the time necessary for housekeeping and eliminate the cost of extra seldom-used rooms.

Edgar J. Moeller, a New York architect, with long experience with urban hotel and apartment house planning, says, in a recent (September) issue of the *Real Estate Magazine*, "The hundreds of apartment buildings, both fireproof and non-fireproof, still in good physical condition, but whose interior arrangements are obsolete for present-day requirements; the remaining private houses, no longer rentable as one-family dwellings, as well as commercial buildings and 'old law tenements' now in residential districts, can and should be remodeled to save the owner's equity and secure the mortgagee's investment."

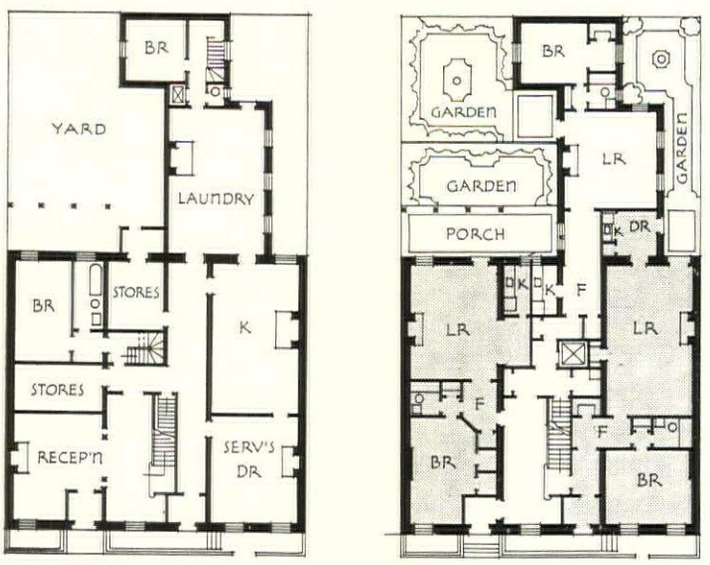
Though the statement refers specifically to the Manhattan Island portion of New York City, it would be equally as applicable to conditions now current in any large urban center of the country. It indicates concisely and forcefully an important market for the services of the architect, and in stressing the economic aspect of the situation, indicates to the architect a logical approach to this type of work.

Common to every type of remodeling operation is the purpose of the owner: to restore the worth of the structure with the least expenditure of both effort and money. Actually this means a determined effort to stabilize a decreasing income in the face of adverse conditions and to produce a relatively higher income with a minimum of first cost and subsequent maintenance expenses. The success of remodeling depends much upon the architect's detailed understanding of this purpose and upon his ability to plan space, to devise methods of construction that must often be unusual and to specify materials that most effectively and economically produce the desired substantial result.

Every item that is susceptible to alteration in the remodeling of an hotel or apartment building cannot, of course, be completely listed. Individual projects may vary within the widest possible limits of alteration necessity, of relative obsolescence, of equipment, of structural conditions. The specific use of the structure, the policy of its management, the building's size and location — these also influence the extent and type of alteration that may prove the best economic expediency. Following are several points which should serve as aids in selling to tenants the results of remodeling operations.



ORIGINAL THIRD FLOOR ALTERED

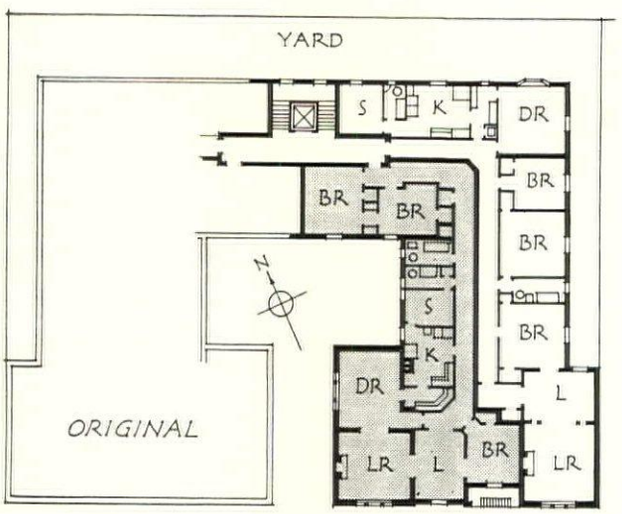


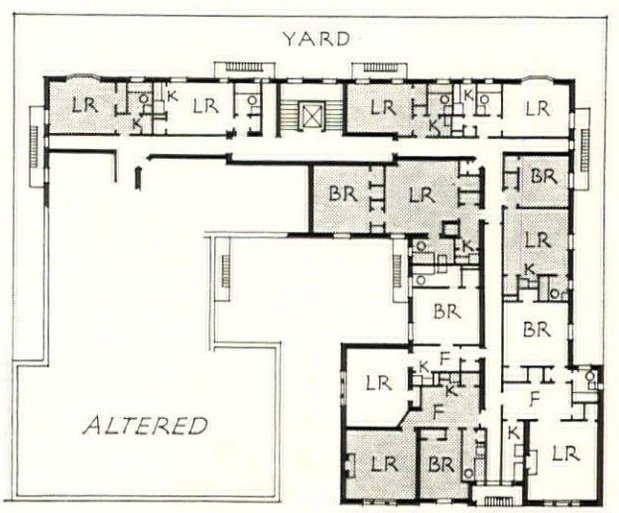
ORIGINAL GROUND FLOOR ALTERED

PLANNING: Maximum of light and air (*large courts and windows*). Convenient layout (*large closets, completely equipped bathrooms, minimum size of private halls and corridors, convenient door swings, compactly planned rooms with unbroken wall surfaces, in commercial hotels especially double doors connecting rooms of suites*). Attractive entrance (*avoid steps from street to entrance lobby. Keep lobby clear of columns*). Shopping convenience (*Shops with large street frontage and possibly lobby show windows may be an important source of income. True also of lobby concessions, such as newsstands, cigar counters, telephone booths, etc.*). Public rooms (*income and tenant satisfaction may be had from such spaces as restaurants, card, music and lounge rooms, sun parlors, club and first aid rooms, swimming pool, roof garden and ballroom, small gymnasium, squash courts, Turkish bath, sample rooms, small private parlors or dining rooms*).

CONSTRUCTION: Fire protection (*essential to commercial residence or apartment hotels and desirable for others. See local code for fire towers, escapes, etc.*). Sound insulation (*increasingly important. Isolate pipes from construction by felt-wrapped hangers; specify large pipes to avoid water pressure sounds. Place all machinery on vibration absorbing mats of cork, lead and concrete. Partitions around elevator shafts, corridors and bathrooms and between suites or private rooms should be sound-resisting . . . double gypsum block, tile furred with insulating board, felt-insulated stud walls. Insulate concrete floors with resilient surface . . . carpet, cork or composition or rubber tile, linoleum, etc.*). Tight windows and correctly hung doors (*specify weatherstripping for windows to prevent drafts and heat losses. Metal window*

The plans on these two pages were developed by Jardine, Murdock and Wright, architects. At the left is a series of small apartments in an old replanned private residence. Below is a typical apartment altered into small units





and door frames and bucks prevent plaster cracks, assure good operation).

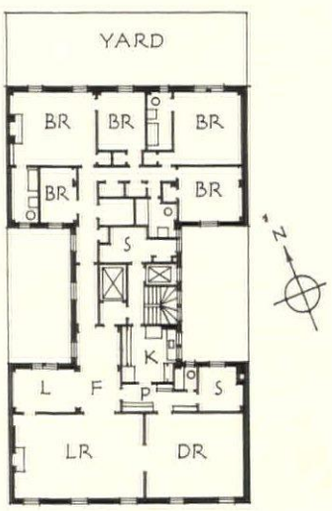
EQUIPMENT. Tenants are particularly attracted to the following items of equipment which may easily be incorporated in the remodeling operation and which, in many cases, are usual only to the newest and most modern of competitive structures. Concealed or covered radiators (*especially in apartments and residence hotels*). Fireplaces (*in apartments and residence hotels; not in commercial hotels*). Servidors (*in commercial hotels*). Built-in showers and steel medicine cabinets. Built-in wardrobes and cedar closets (*in apartments and possibly in residence hotels*). Incinerators and rubbish chutes (*in apartments and residence hotels*). Circulating ice water. Humidification devices. Central radio system with room or suite outlets. Dinettes and compact kitchen facilities, including mechanical refrigeration (*in apartments and residence hotels*). Semi-indirect lighting and many base plugs. Awnings. Office safe for valuables. Self-service elevators (*in small apartment buildings*). Central water softeners (*particularly in commercial hotels catering to transients*). Non-corrosive pipes throughout.

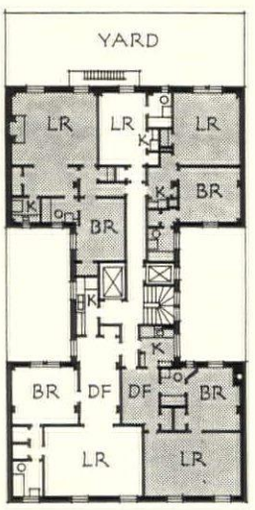
The decision to include these items in the remodeling operation must be made, of course, from the standpoints of first cost, a carefully estimated future maintenance expense and an influence upon the rental value of the building. Often the structure will contain many details which may merely be renovated sufficiently to meet competition in other properties, and the remodeling activity becomes a minor operation that involves refinishing rather than extensive or costly structural alterations. Even in such cases the technical ability of the architect is valuable in the re-creation of hotel and apartment comforts and in the inexpensive development of attractive and well-coordinated interiors.

Such work has primarily to do with items of construction, though in many cases this implies the revision of some parts of the mechanical equipment and the possible installation of new portions. The following lists — necessarily in brief outline — suggest parts of the building most susceptible to effective and economical improvement.

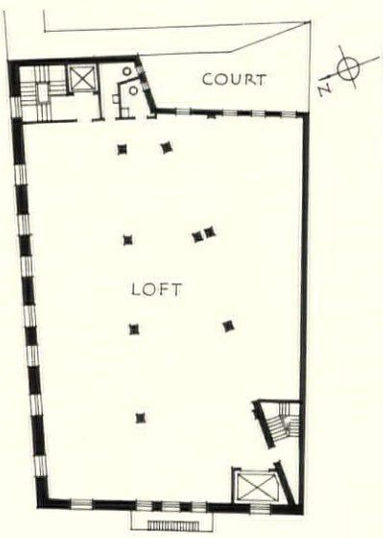
EXTERIOR: Possible redesign of facades without basic structural changes in fenestration by removal of old cornices, applied decorations, etc. Resurfacing with new materials (*wholly or in part. Spandrels of a material different from the rest of the structure may be installed in many cases to produce a radically different facade with comparatively little cost*). Resurfacing by cleaning (sandblasting is effective in the case of stone or brick; repainting is indicated for wood-covered structures, and washing with a sal soda solution in the case of terra cotta). Repair and repainting of window and door frames, sills, sash, etc. Possible redesign of steps, terraces, etc. Development of show windows. Installation of new and more efficient entrance doors with possible entrance canopy. Resurfacing roof terraces and repairing main roofs (particular attention should be paid to proper laying of roof tiles or composition or built-up membranes to assure watertightness. Reflash with particular care around parapets, gutters, cornices, etc. If roof garden is to be developed, check for structural safety, not only roof framing but all columns, beams, etc.). Check windows for weatherstripping

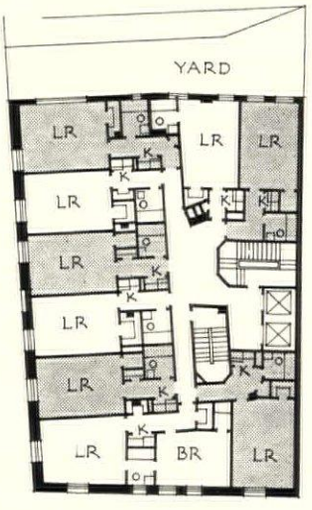
Since there is practically no demand for a building with one apartment to a floor, an alteration of such a structure into small suites will stabilize the original investment

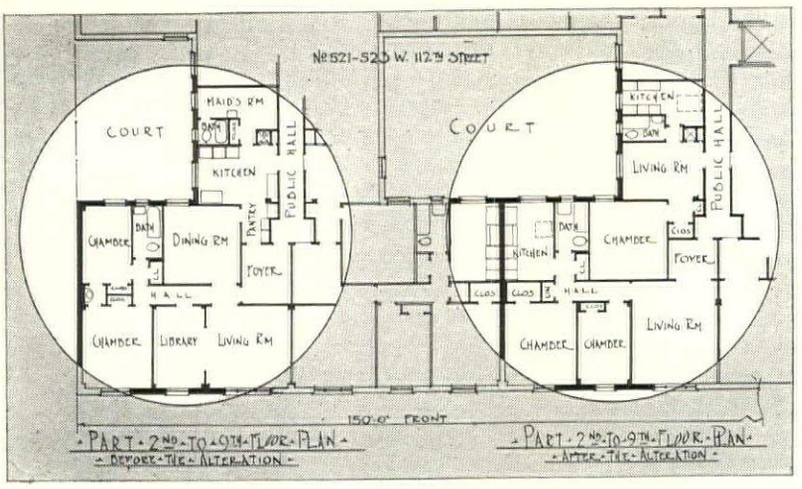




A loft building may become a financial loss through a change in the character of a district, but when altered into small suites it becomes an excellent investment at a cost of less than 70 per cent of a new building







A plan study by Manoug Exerjian, architect, which illustrates graphically the possible revision of a large suite, cumbersome and unrentable, into two small modern apartments. Note particularly the manner in which the existing soil and water lines have been utilized in the new layout

and install strips where absent. (This conserves heat and lowers maintenance expense. It also prevents rattling of sash and reduces noise within the tenant's room.)

INTERIOR: Possible redesign of lobby and lounge (simplify plan by possible relocation of clerk's desk, offices, check rooms, concessions, etc., for greater public convenience). Resurface and repair floors. Refinish walls and repair casings, decoration, etc. Revise methods of lighting to conform to changes in plan, finish, color, etc. (Indirect light is to be preferred in public spaces for general lighting. Base plugs should be provided for the use of accessory light in special locations.) Install new bathroom floors and walls (a soft type of floor, and tile wainscots are desirable). Repair and enlarge room closets (cedar closets are desirable in some apartments). Install most up-to-date equipment in bathrooms, kitchens and serving pantries and replan these spaces for the most compact and time-saving arrangement of units. Recess radiators if practical in all rooms and particularly in living rooms and public spaces (in many cases a rigid cover will accomplish the same purpose).

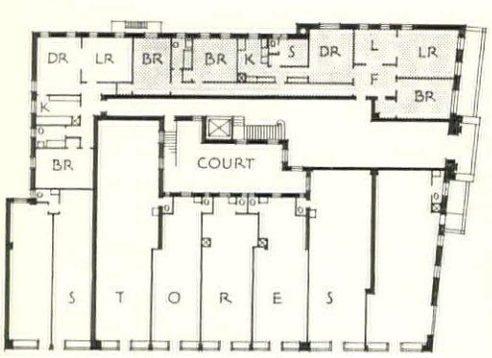
WHETHER modernization involves merely renovation or whether it is concerned with extensive operations that involve major structural changes, building materials are an important contribution to the success of the undertaking. It must be constantly borne in mind that the owner has authorized alteration work for the sole purpose of improving his property and thereby stabilizing his financial investment in it. Any specification on the part of the architect, therefore, must be toward the end of establishing an improvement with the utmost economy of first cost and maintenance expense.

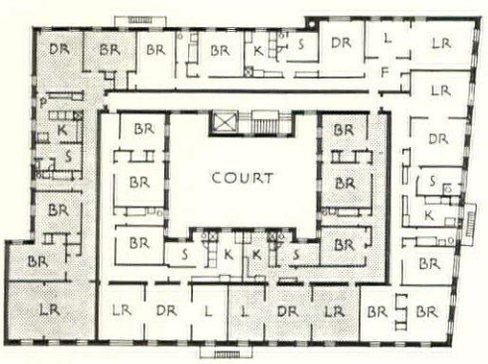
Much may be done to enhance the attractiveness and the livability of a building through the mere treatment of surface. The following paragraphs indicate possibilities having to do largely with resurfacing and decoration in which the architect, as the deciding factor for the owner, can assist in transforming a present failure into a potential success.

FLOOR COVERINGS. In corridors and rooms soft, resilient, sound-absorbent material is desirable, such as cork, composition tile, linoleum, rubber tile or carpet. All of these materials should be laid with the utmost care to avoid maintenance expense. A base with a cove shoe should be installed to facilitate cleaning. In public spaces existing floors may be repaired and refinished. Treated wood blocks may be laid in mastic over an existing floor previously covered by carpet. A wood block floor is resilient, wear-resisting and smooth enough for dancing.

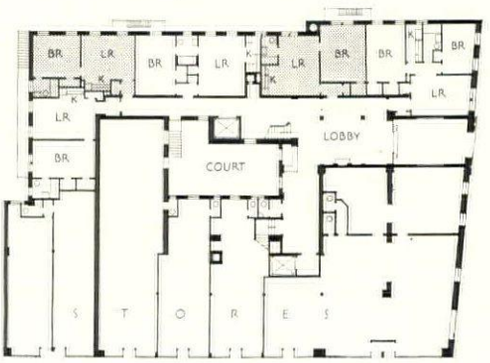
WALL MATERIALS. The character of a room may be radically changed by the use of easily applied wall surfaces. The walls of lobbies, ballrooms, smoking or lounge rooms may be covered with wood veneer to produce the effect of a paneled interior. Many rooms can be refinished by the use of one of the many excellent sanitary washable wall coverings.

Before Alteration





After Alteration





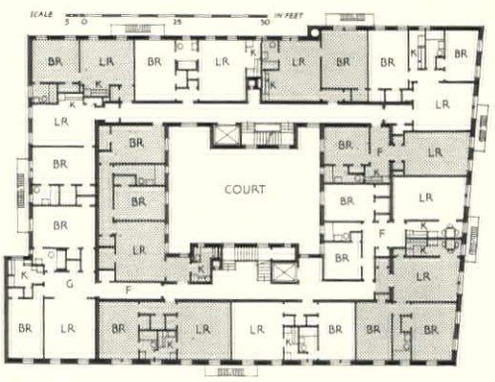
Dryer Photos



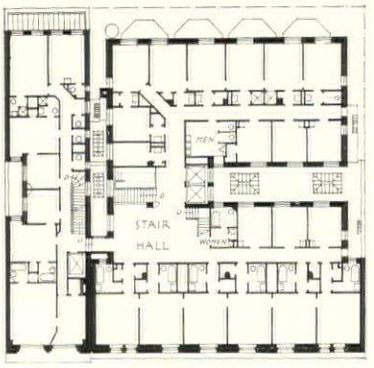
HAMLET COURT APARTMENTS

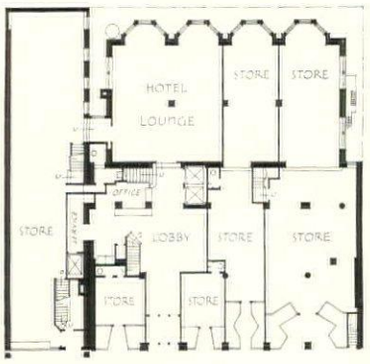
NEW YORK, N. Y.

GEORGE J. HARVEY, ARCHITECT



TAKING advantage of the trend toward smaller and more compact apartments, this building was replanned from a structure housing 27 families in seven and eight room apartments to one accommodating 65 families in two, three and four room units. The modernization included a new entrance hall and elevators and the installation of incinerators and electrical refrigerators. Completed in December 1931, the approximate cost of the modernization was $150,000. When the alteration was completed, the building was already 75 per cent rented and at the present time there are no vacancies

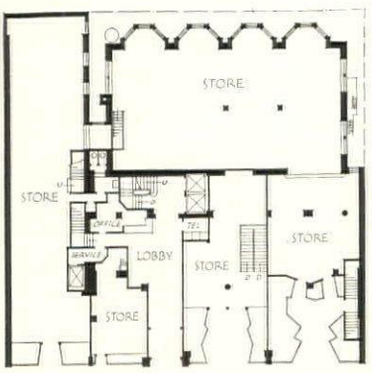


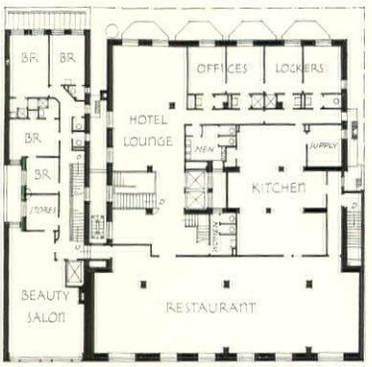


Before Alteration



Van Anda





After Alteration



Ruby

THE HERALD SQUARE HOTEL

NEW YORK, N. Y.

EDWARD NECARSULMER, ARCHITECT

As shown by the illustration on this page, the alteration consisted of a redesigning of the shop fronts and hotel entrances and a drastic re-arrangement of the first and second floors of the old building to increase the rentable area and to modernize the hotel lobby and lounge. Before alteration, which included the renovation of a large space in the basement formerly unused, the rents of the shops totaled $84,500. Due to the complete modernization, which included an increase in the store show windows, the rent at the present time exceeds $150,000 annually. The cost of the alterations to the stores and the basement area amounted to approximately $100,000. The total cost of $130,295 includes the modernization of the hotel entrance, the lobby, the lounges and the elevators. Particularly interesting is the re-arrangement of the second floor whereby a comparatively non-productive area was changed into a beauty salon, restaurant and kitchen. The rental for the beauty salon and restaurant amounts to nearly $8,500 per year, from an expenditure of approximately $6,000. Important also is the fact that the show window frontage valued at $1,500 per lineal foot was increased by 12 ft. 4 in. through the removal of heavy piers on the facade of the old structure.



Rothschild

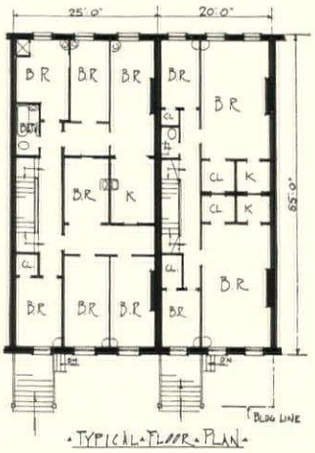
325–327 WEST 28TH STREET

NEW YORK, N. Y.

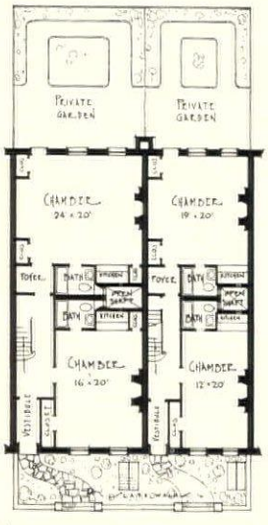
MANOUG EXERJIAN, ARCHITECT

DIRECTLY under the photograph is a plan and elevation of the structure showing condition of the building before remodeling when $900 a year was required to carry the building. The alterations were completed in August 1932 and the present net income, after allowing 5½ per cent interest for the cost of the improvements, is $8,150. The alterations themselves, which cost $35,900, are indicated by a comparison of the plans shown here. The interior of the building was completely modernized and attractive small apartments were developed from what had been small, unventilated and poorly lighted rooms. At present apartments are completely equipped with open fireplaces, radio aerials, built-in clothes dryers and radiators

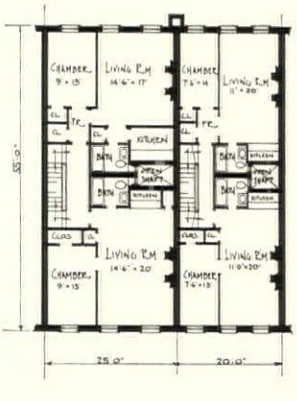




• TYPICAL • FLOOR • PLAN •

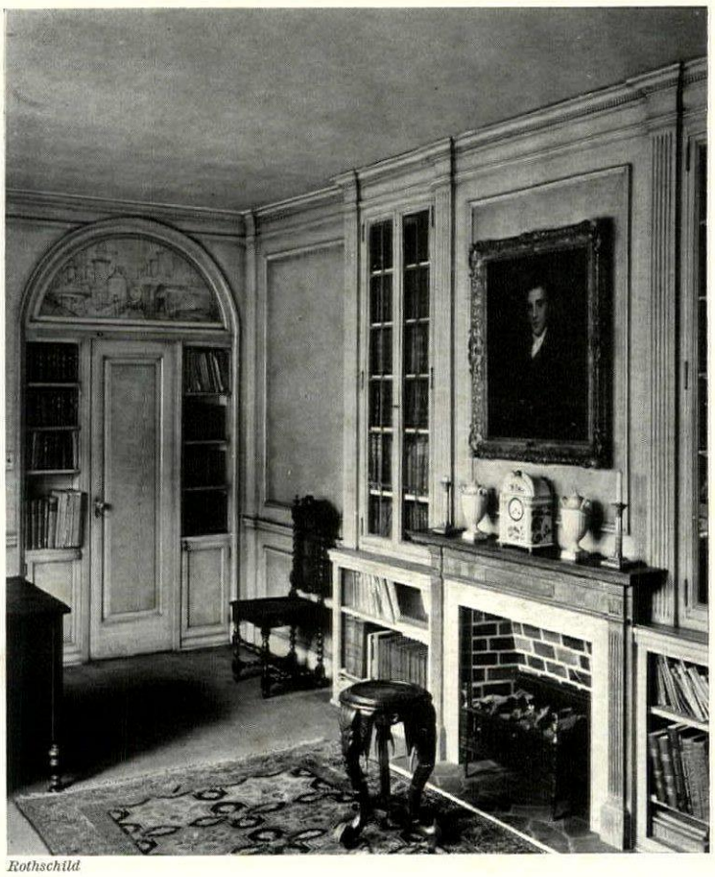


• BASEMENT • FLOOR • PLAN •

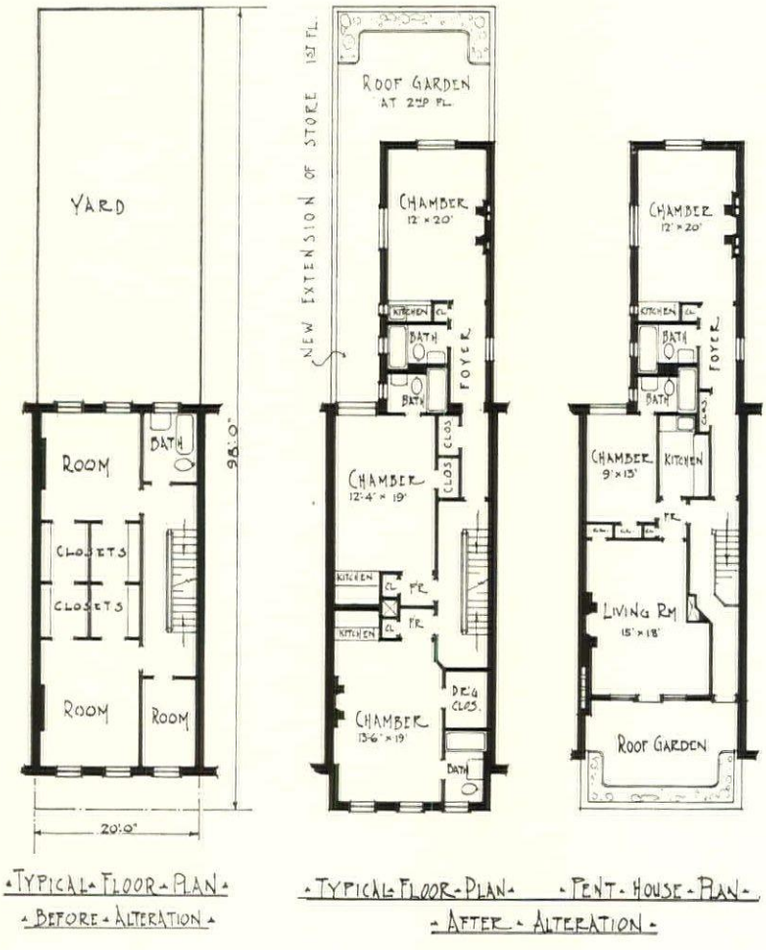


• 1ST • TO • 4TH • FLOOR • PLAN • INCLUSIVE •





Rothschild



TYPICAL FLOOR PLAN
BEFORE ALTERATION

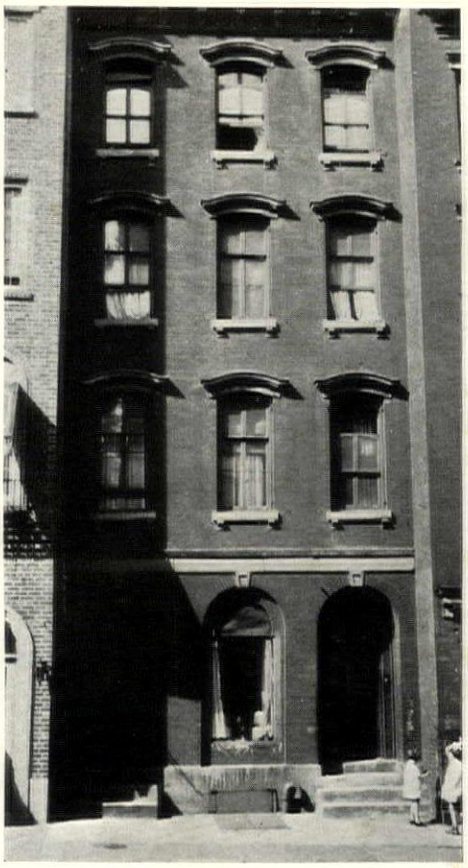
TYPICAL FLOOR PLAN
PENT HOUSE PLAN
AFTER ALTERATION

The plan at the left shows the typical floor plan both before and after alteration, indicating the extension at the rear and the moving of the front out to the actual lot line. The added pent house is shown also. The photographs above show the roof garden conservatory and a typical living room interior

167–169 EAST 33RD STREET

NEW YORK, N. Y.

MANOUG EXERJIAN, ARCHITECT

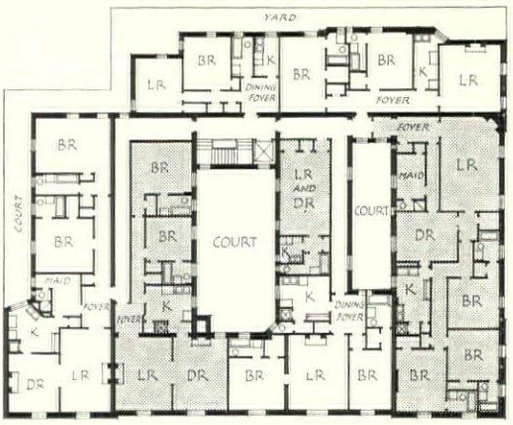


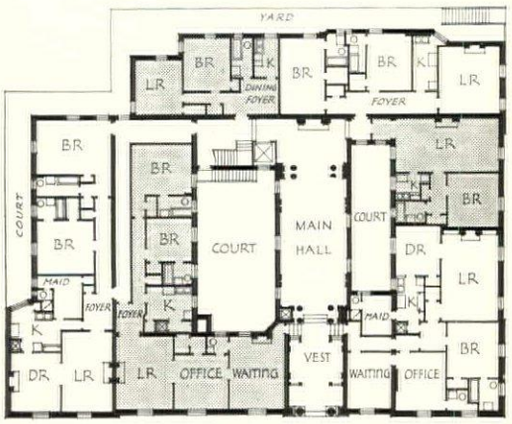
The photograph above indicates a usual type of city dwelling which lends itself to remodeling. This particular house had been remodeled to a slight extent from a private residence by putting a shop of sorts in the lower story. The photograph at the right indicates the way in which this building was brought into alignment with the one next to it



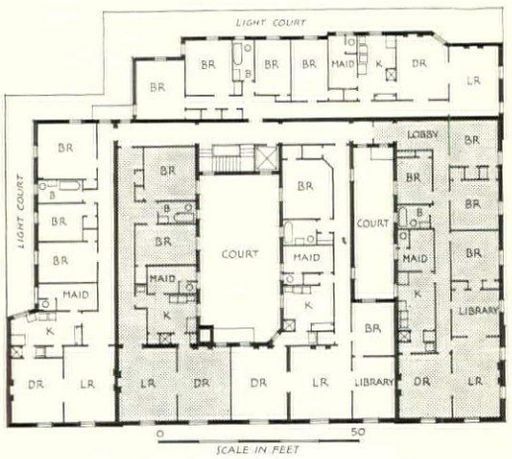
Rothschild

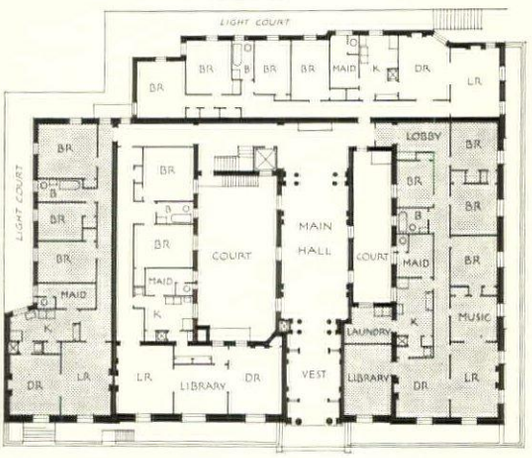
THE present apartment building is a type peculiar to large cities of the East, especially New York and Boston. The antiquated building, shown at the top of this page, was formerly a private house and changing conditions have made it necessary to remodel into small apartments. It is typical of alteration possibilities in old structures of this type and both interiors and exteriors have been shown here to indicate the extent of remodeling and modernizing possibilities inherent in outmoded city dwellings. Particularly interesting is the development of an angle-iron-and-glass pent-house conservatory of one of the remodeled buildings. Its interior is shown on the opposite page and the exterior may be seen at the top of the large illustration on this page. In this alteration the architect performed the service of an interior decorator also. Such practice is recommended wherever possible.





After Alteration





Before Alteration



Akron

1361 MADISON AVENUE

NEW YORK, N. Y.

HARRY P. JAENIKE, ARCHITECT

CONVERTING an obsolete apartment house which faced a 94 per cent vacancy into a modern building that was 74 per cent rented upon completion of alterations was the result of the initial reconditioning project sponsored by the Rehabilitation Corporation, a company formed to finance and supervise remodeling and modernization work.

The building, containing 34 apartments, ranging in size from seven to eleven rooms, had been built in 1901, seven stories high, of fireproof construction. The layout of the apartments, as well as their equipment, was antiquated, with a long narrow hall leading from the entrance of each apartment to the living room, past the bedrooms, bathroom, and kitchen. After a thorough survey of conditions in the building, plans and specifications were prepared together with a complete financing plan and rental schedule for the new layout. The schedule demonstrated that it would be profitable to complete the alterations and still rent at 25 per cent less than comparable buildings.



Akron

On the basis of an occupancy survey made in the surrounding buildings, the apartments were cut up into units of 2, 3, 4, 5, 6, and 7 rooms, making a total of 48 apartments throughout the building. By elimination of the long corridors, space efficiency was increased by approximately 7 per cent. Improvements in each apartment included:

Living rooms and bedrooms: Removal of ceiling ornamentation, heavily ornamented picture moldings, other trim and fireplaces; installing hardwood floors to replace worn pine floors, papering or painting according to tenants' specifications.

Bathrooms: Every bedroom provided with private bath, colored fixtures, chromium hardware, brass piping, tile wainscoting, rubber tile flooring.

Kitchens: Combination sink and trays replacing old soapstone tubs and enamel iron sinks, electric refrigerators, oven control ranges, metal dressers and rubber tile flooring.

The general improvements throughout the building included:

Exterior: Brick and stonework cleaned, interior courts and adjoining walls whitewashed, window sash repaired and repainted, new roofing, and worn out clothes dryers replaced.

Lobby and public corridors: Decorative scheme Georgian, main lobby walls papered yellow and silver, pilasters and trim painted white, rubber flooring, Venetian blinds hung in windows opening on court; other corridors finished in yellow and black with scenic wallpaper and rubber flooring.

Miscellaneous: Elevator replaced with modern electric type, walnut cab, shaft enclosed with reinforced sheet iron; private telephone and annunciating system installed; heating plant modernized with new type low radiators and complete controls; all gas and electric meters relocated centrally in cellar, and current characteristic changed from d.c. to a.c.

Since the alterations were carried on while the building was partially occupied, temporary water, gas, and electric



Herbert

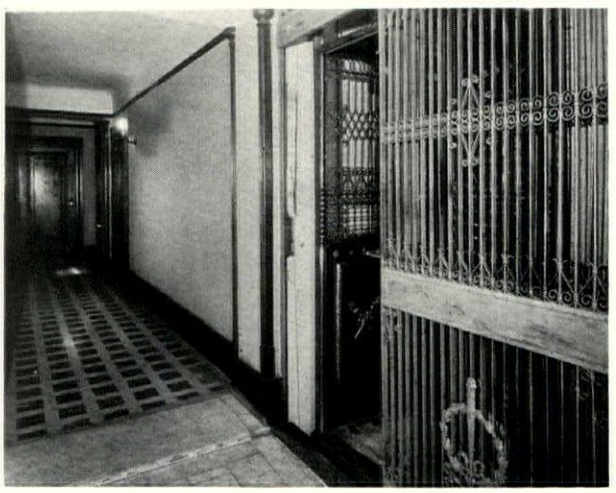
At the top of the page is a view of one of the remodeled living rooms. Below is an illustration of a typical interior before the rehabilitation program began

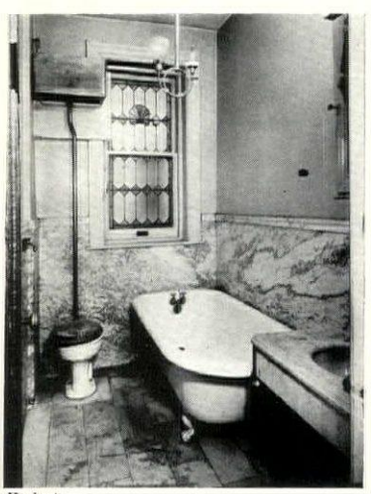


Akron *Herbert*

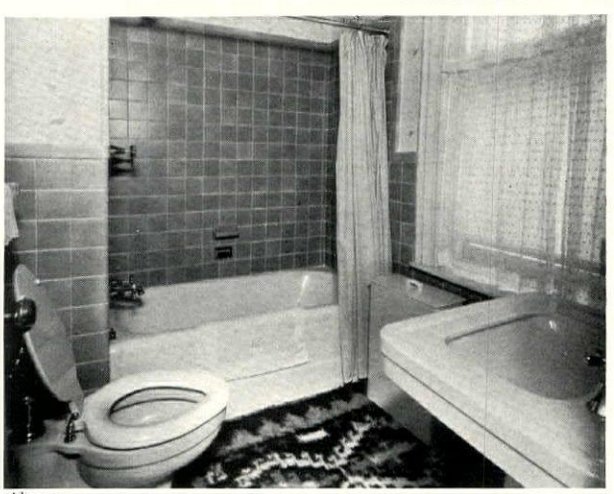
service had to be supplied. The services of the architect were available to all tenants in the selection of decorative schemes for individual apartments.

The cost of the alteration was approximately 10 cents per cu. ft., or $81,000. Although the remodeled building cannot command as high rentals as the recently completed buildings in the neighborhood, it can, because of its improved condition, compete successfully with those buildings for the same class of tenants. Since the cost of the building had already been amortized over the 30-year period, the small capital investment permitted a rental 25 per cent under competitive buildings, a condition which usually favors reconditioned buildings.



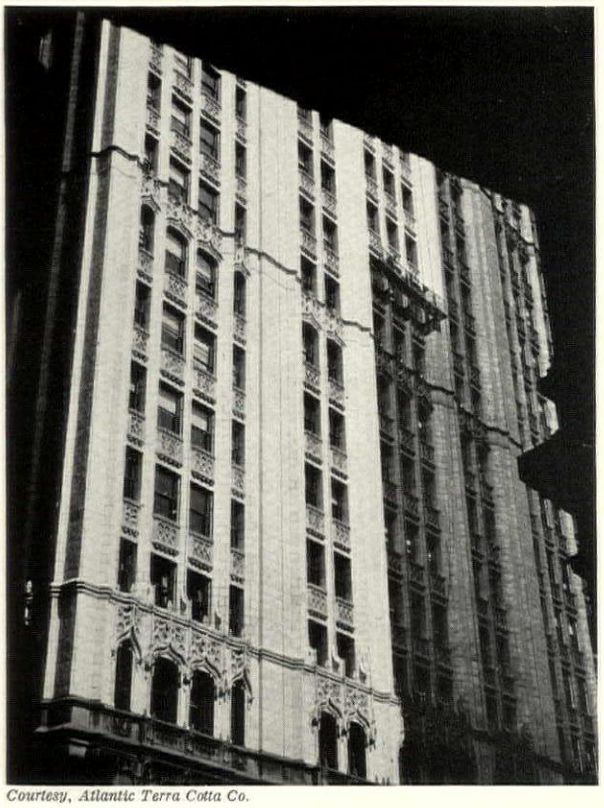


Herbert



Akron

Two sets of before and after illustrations. Above is a view of one of the new elevator corridors. At the right are two pictures that allow a comparison between the old and new bathrooms



Courtesy, Atlantic Terra Cotta Co.

The terra cotta face of the Woolworth Building undergoing the first thorough cleaning of its 20-year life

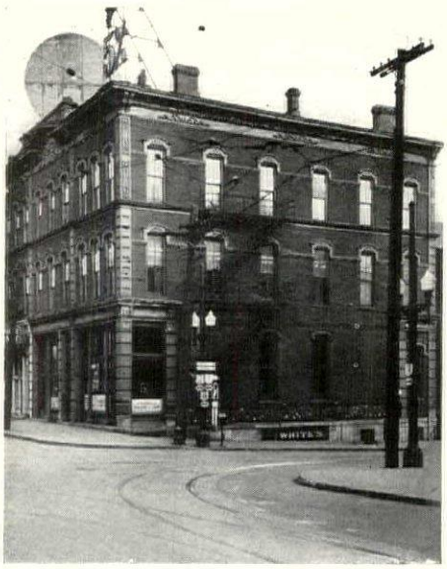
NOTES ON OFFICE BUILDINGS

RECONDITIONING an office building has as its aim the maintenance or restoration of a sound economic position through physical improvement of the building and its equipment. Since factors other than physical condition determine office building obsolescence, however, the architect is required to determine whether or not physical restoration will sufficiently improve its economic condition to warrant the expense. He must consider whether: (1) neighborhood can absorb the amount and type of space made available; (2) tenancy character of neighborhood is stable; (3) reconditioning will effect proper readjustment between land value and building value; (4) cost of work is sufficiently low to be amortized in five, preferably three, years; (5) revenue will be maintained or increased by improved competitive standing of building.

Individual conditions will inject other considerations into the project so that the architect who offers complete remodeling service must survey not only the physical condition of the building, but the occupancy characteristics of the neighborhood, the financial condition of the building, before recommending specific alterations.*

Promotion. Working with a realtor to find a tenant who will lease large space in an old building if remodeled is the most common method of obtaining a commission. Submitting complete plan to owner, including financing scheme and revised income schedule, is usually essential, in which case possible assistance may be obtained from such organizations as the Rehabilitation Corporation. In analyzing the benefits of remodeling, the architect should not

*See "The Remodeled Office Building," THE ARCHITECTURAL FORUM, July, 1931, pp. 81–90, for remodeling procedure.





Photos, Courtesy Atlantic Terra Cotta Co.

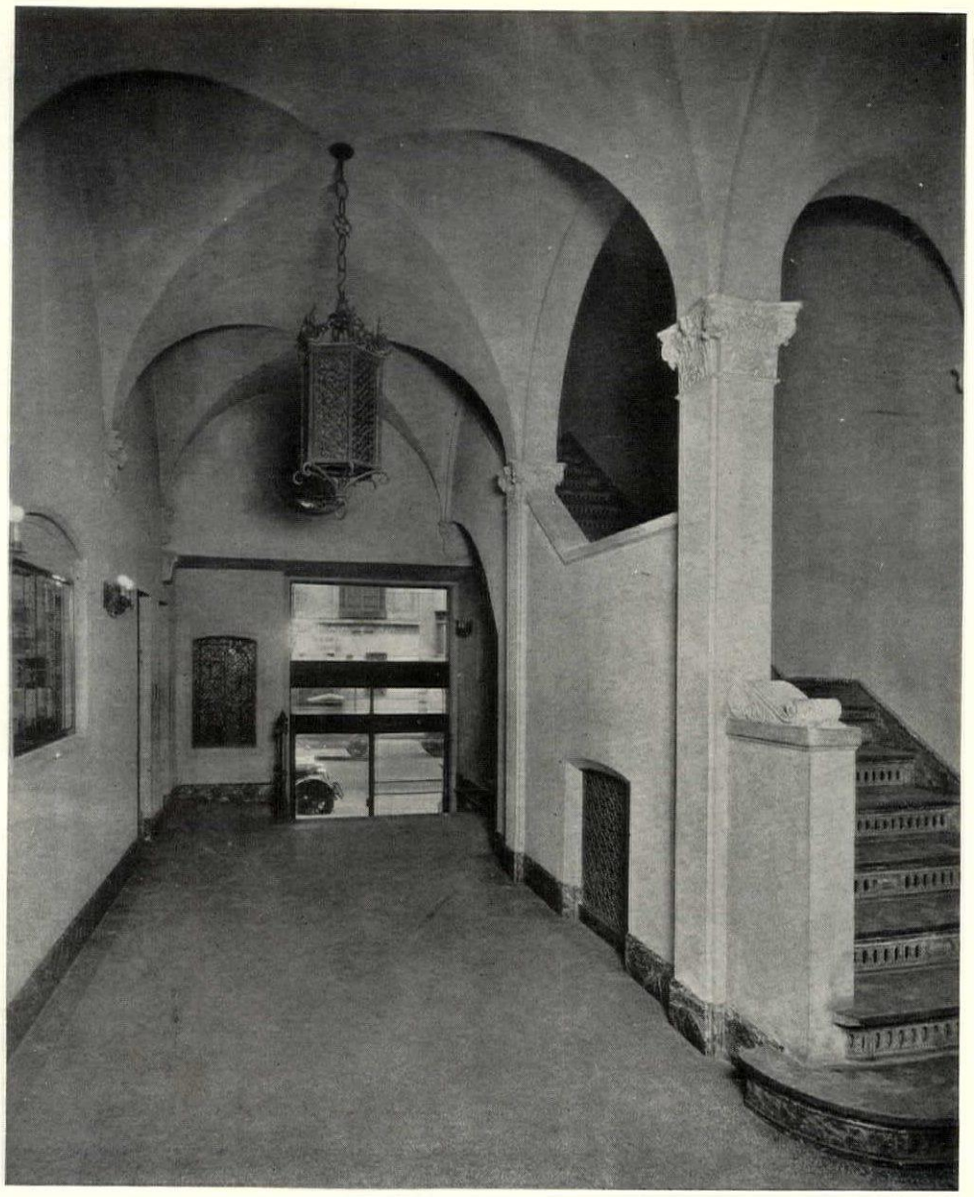
Practicing what it advocates, the Steubenville Building & Loan Association, Steubenville, Ohio, reconditions its own building to improve the character of its quarters and to retain its tenants in the floors above. The architects were Peterson & Clark

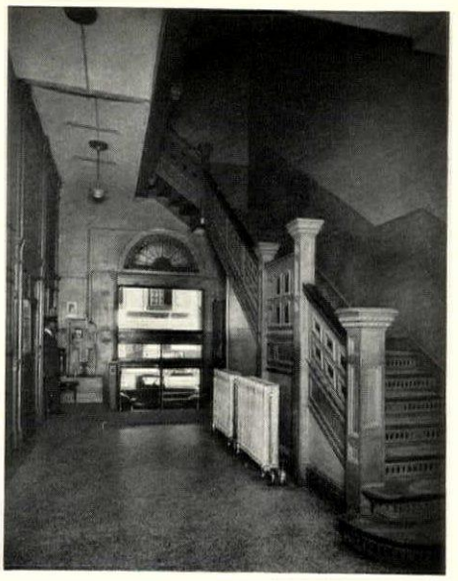
overlook the assistance of manufacturers of heating, electrical, and elevator equipment, since their engineering studies may demonstrate to unconvinced owners economies not obvious to architects in making building surveys.

One new type of service is being developed by a few architects — consulting on large and small repair work for building managers and maintenance departments of management companies. Architects will find their services particularly welcome on buildings which they had originally designed because of their knowledge of structural conditions.

The Building Survey. Not too much importance can be attached to the thoroughness with which the survey of a building is made. A check list is essential before starting, particularly if plans and specifications of old building are not available. The object of the building survey is to obtain the equivalent of a complete set of working drawings and specifications of the work to be altered. Among the recommendations for surveys made by the office of F. P. Platt and Brother, which specializes in remodeling work, are: (1) Adopt a uniform method of recording data and dimensions understood throughout the office; (2) Supplement the survey with ample photographs; (3) Always expose conditions rather than guess at important items; (4) Where the new layout increases the occupancy of the building, particular consideration must be given to increasing elevator and electric service. Although a thorough building survey should eliminate much of the difficulty encountered in preparing sound preliminary estimates, the architect must make allowance for contingencies, and prepare the owner for them as well.

Check List. From the regular office building check list a satisfactory check list of structural and decora-





The entrances to the offices and studios in Carnegie Hall, New York, modernized by Edward I. Shire. Without disturbing the old structure or finish, the corridors were remodeled by using metal furring and cement plaster. New doors, radiators, light fixtures were also installed

tive divisions of the work may be worked up by considering each in the light of:

(1) Condition
(2) Repairing or replacing
(3) Cleaning or painting

For heating, plumbing, elevator, electrical and other systems, an efficiency study by competent engineers is advisable, since one cannot with rules, plumb-bob, hammer, chisel, and flash-light determine the advisability of repairing or replacing.

Physical Considerations Affecting the Economic Result

The topics suggested do not constitute a check list, but are considerations in profitable remodeling.

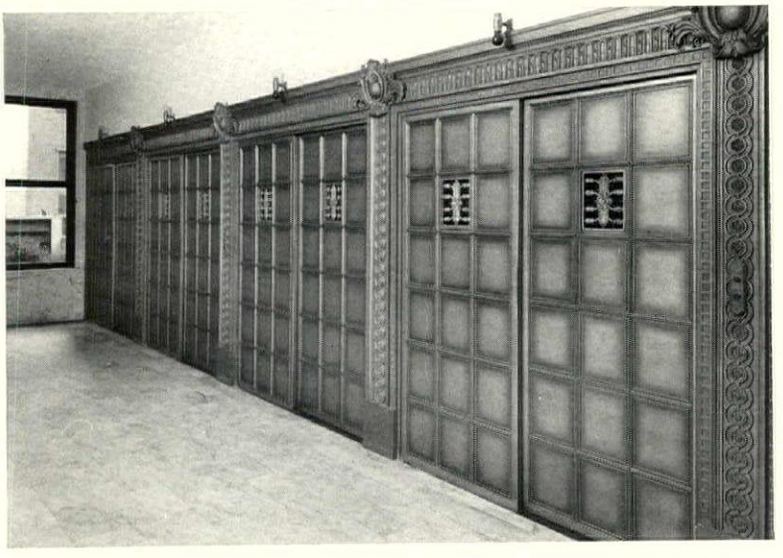
Expansion: Neighborhood ability to absorb space; if vertical, possibility of light-weight construction; if horizontal, opportunity of improving character of office space.

Shops and stores: Increasing window area by eliminating masonry piers; increasing number of shops by narrowing width, shortening depth; encouraging special occupancy by making provision for installing special equipment; considering second floor shops and basement rentals, possibly restaurant in either location.

Entrance and lobby: Changing location to improve character of space; reducing size to obtain more rentable area; increasing size as advertisement; adding concessions and interior shops.

Elevators: Checking wait interval to determine if service is better than 30-second intervals; increasing number or speed; enclosing shafts, installing new cabs, latest control and safety devices, equalizers, etc., to increase prestige and reduce maintenance costs





The elevator corridors of the Security Building, Los Angeles, Calif., remodeled under the supervision of Samuel E. Lunden, architect

Heating: Obtaining performance data to discover if system is consuming approximately 0.6 of a pound of steam per degree day per 1000 cu. ft. gross volume, the recognized standard of efficient heating; considering air conditioning which, despite cost, is significant rental factor; new controls, radiator enclosures, unit coolers, humidifiers, etc.

Plumbing: Increasing toilet accommodations and installing modern equipment throughout, corridor drinking fountains, increasing pipe sizes and improving piping generally to reduce maintenance.

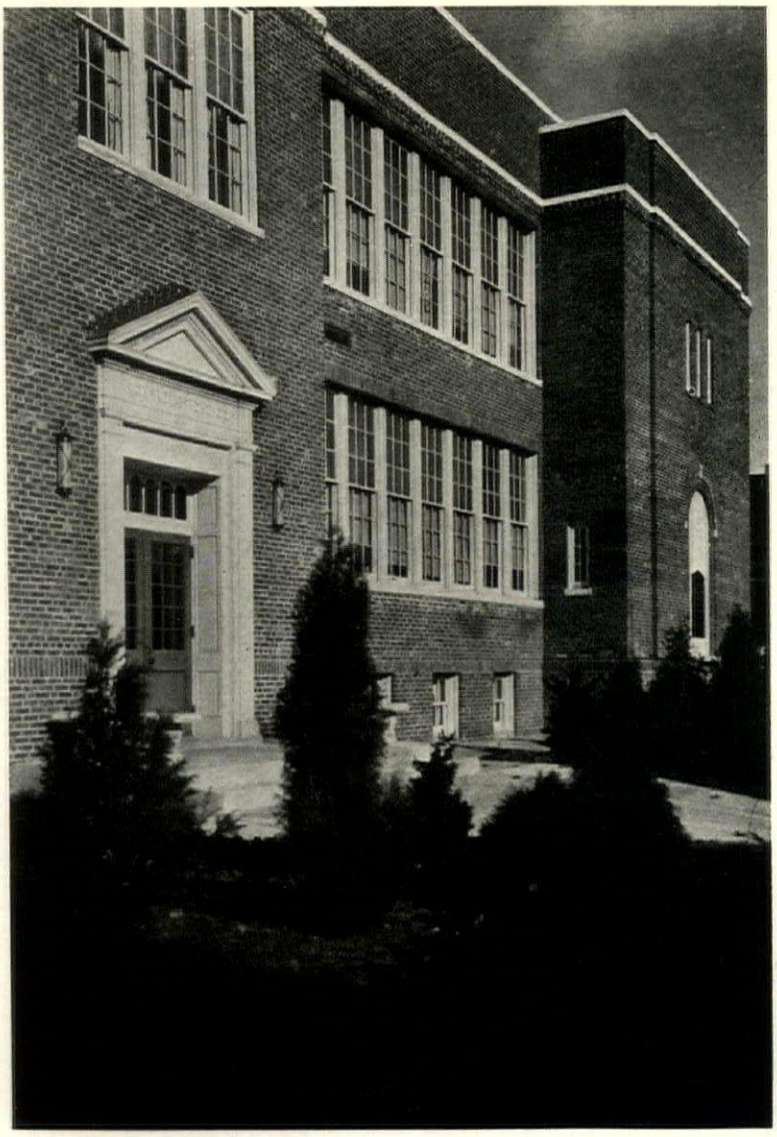
Electrical equipment: Requesting lighting company to test efficiency of existing system, installing new fixtures to obtain proper diffusion and foot-candle intensity as well as to improve appearance; possibly installing new type dual-purpose fixtures; increasing outlets and repairing or replacing old wiring; floodlighting exterior; incorporating sign into exterior design.

Redecorating: Eliminating extraneous ornament, unnecessary moldings, etc., to reduce cleaning costs; improving sound absorbing and light reflecting quality of walls and ceilings; strict observance of maintenance costs in choosing all materials.

Partitions: Redividing floor space for greater efficiency and greater convenience of office units; investigating new materials for permanent and temporary partitions of less thickness and equal durability; providing architectural service for office layouts.

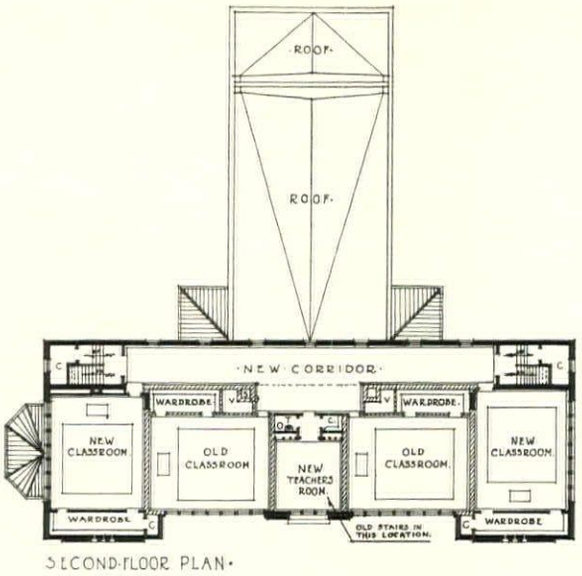
Exterior: New facing for lower two floors, cleaning or refacing above.

Miscellaneous: Burglar and fire alarm signal systems; sound control units for windows; radio outlets; Venetian blinds; other tenant-attracting features.

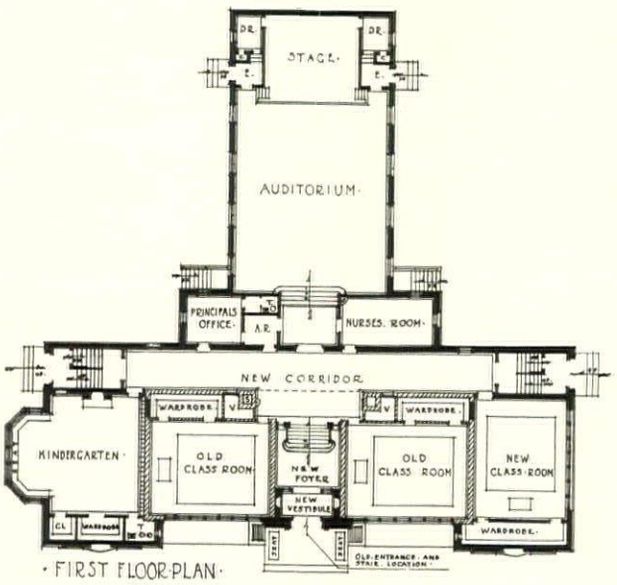


SEVENTEEN EXAMPLES OF SUCCESSFUL MODERNIZING

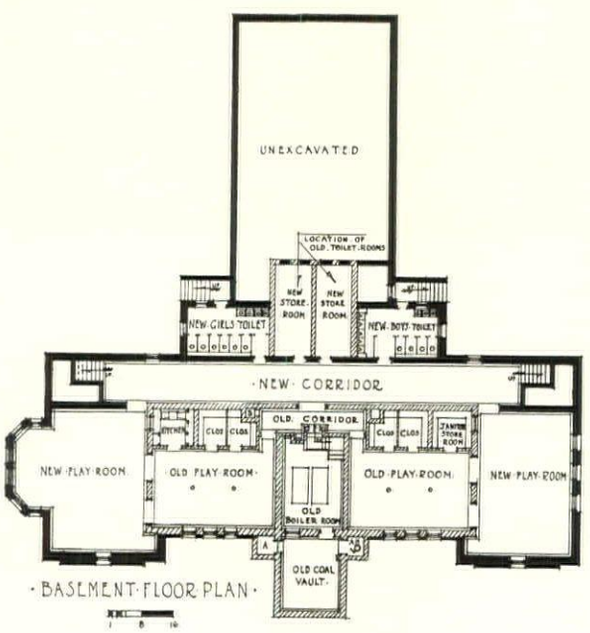
A SELECTION OF RECENTLY COMPLETED ALTERATION AND REMODELING WORK WHICH INCLUDES A SCHOOL, A DOCTORS' BUILDING, A CHURCH, A COUNTRY CLUB, A PARK PAVILION, A BANK, AN OFFICE BUILDING, A LAW SCHOOL AND SEVERAL SHOPS AND STORES



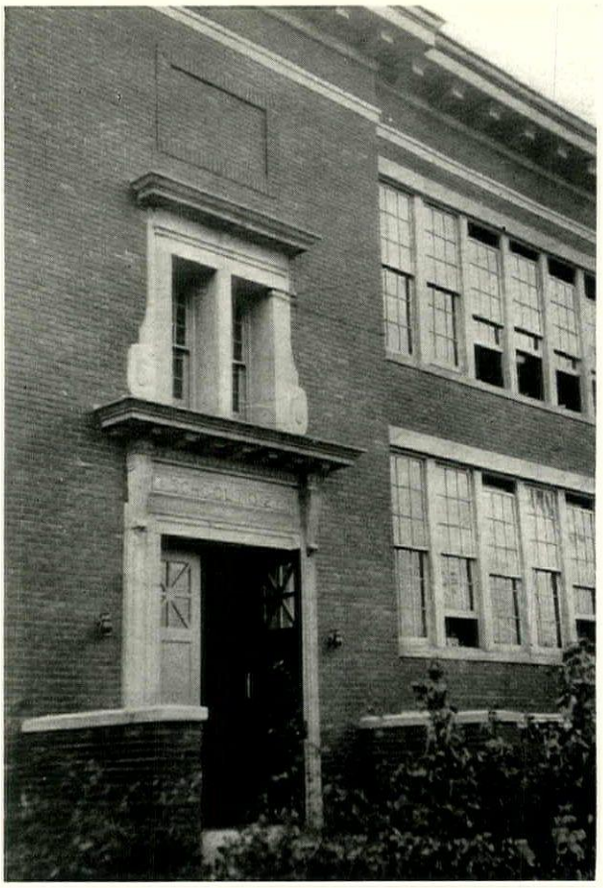
SECOND FLOOR PLAN



FIRST FLOOR PLAN



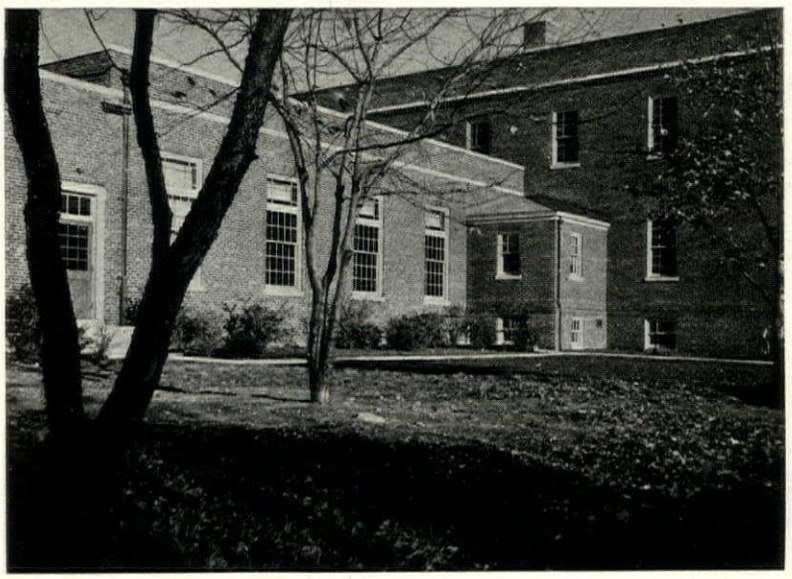
BASEMENT FLOOR PLAN



RICHARD E. BYRD SCHOOL, GLEN ROCK, N. J., ADAMS & PRENTICE, ARCHITECTS, HAROLD E. PADDON, ASSOCIATE ARCHITECT

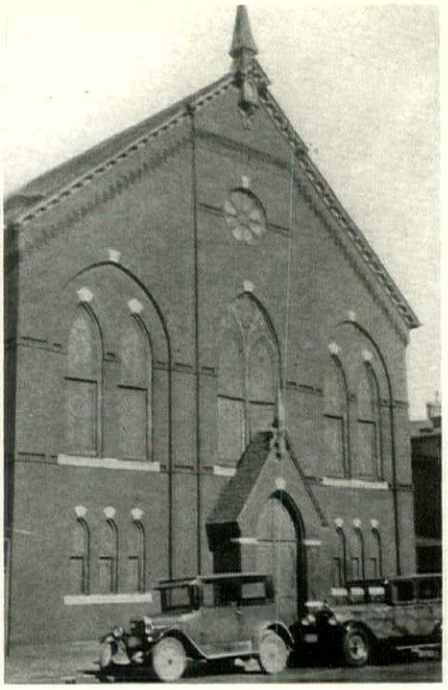
ADDITIONS to public schools usually involve only the addition of a wing or two toward the completion of a plant previously laid out, of which the existing structure is only a part. The additions to the Glen Rock School differ from ordinary practice in that the original school has been almost entirely surrounded by new work. The old building in this case has not been treated as a unit of a complete plant but has been incorporated into the present structure as a nucleus of service facilities. The object of the alteration was to double the capacity of the old school building and to provide facilities for a public meeting place which could be used as a social and recreational center or, when equipped with removable seats, as an assembly hall for the school.





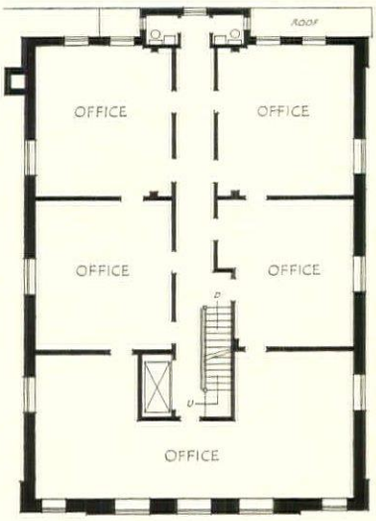
A study of the plans, in which the new work is indicated in black poché, will show better than a lengthy description the extent and nature of the alterations. Exterior changes were confined to the main facade where the entrance was redesigned and the entire front of the old structure resurfaced with a new veneer of common brick to conform with the treatment selected for the additions. With the exception of a relocation of the window above the entrance door, which may be observed by comparing the pictures at the top of these two pages, the fenestration of the old building remains the same, and that of the new wings was designed to conform with it. The extent of the additions to the old building made a new heating plant necessary and two steel tube boilers were installed in the old boiler room. The auditorium is equipped with a ventilating system, but the building contains no air conditioning equipment. The classrooms are heated and ventilated by univents. The new additions to the original structure have been built of a fireproof construction with terra cotta and reinforced concrete floors. The work was started in April 1931 and was completed in October of the same year. The cost of the actual construction and equipment was $82,000 and the total cost of the operation, including fees, was $87,000

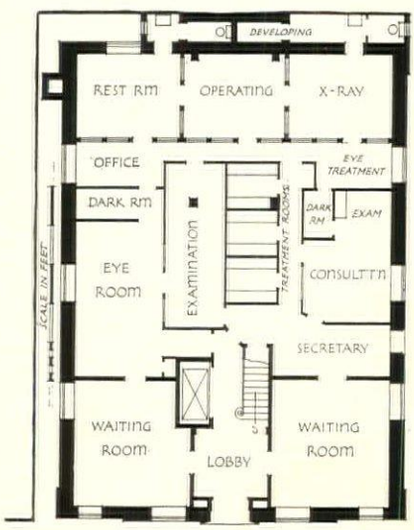
On this page are two views of the Glen Rock School after alteration. The picture on the opposite page is of the main entrance to the original small structure





Leopold





DOCTORS' OFFICE BUILDING, BALTIMORE, MD., T. WORTH JAMISON, JR., ARCHITECT

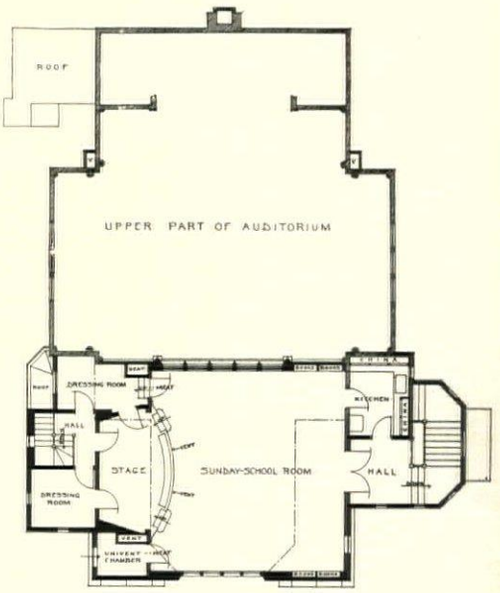
THIS building, which was altered from the small two-story church shown above, has proved so successful financially that the owner is considering an addition of two stories. In the alteration all four walls of the old building were used, the front wall being resurfaced with a cream colored brick trimmed with limestone. The present structure was developed as a doctor's office building at a cost of approximately $70,000. The owner occupies the first floor, shown below at the left, and rents the spaces above. All of the interior walls of the building have been plastered and the floors are of edge grain yellow pine

ORANGE NEW CHURCH, ORANGE,

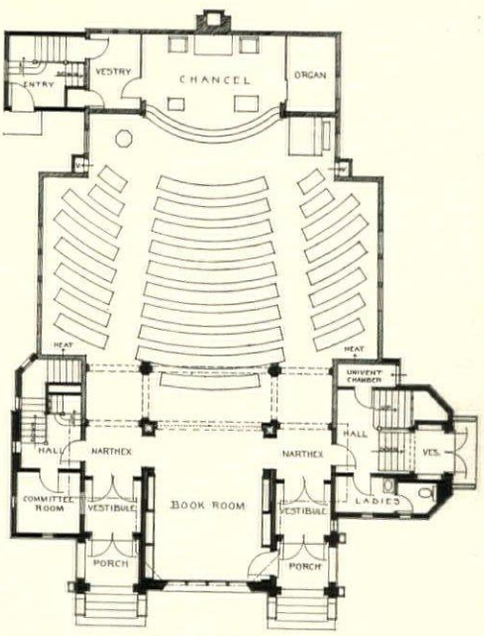
NEW JERSEY,

TAYLOR & MOSLEY, ARCHITECTS

BUILT approximately 45 years ago the original church (shown at the right at the bottom of the page) did not contain sufficient facilities for a much enlarged parish. The design was outmoded and the equipment was not sufficient to permit the use of a Sunday school room and kitchen which were needed for church activities. At a cost of approximately $32,500, the building was altered to include a new heating and ventilating system for the entire building; a book room, which is used as a reading room during the week; a new stair tower with a separate entrance; a second floor Sunday school room, with stage, dressing rooms and kitchen; a new committee room and two new toilet rooms. In redesigning the structure the front was extended somewhat, although the main auditorium remained unaltered except for the addition of the Sunday school room over the front portion of the room. The new part of the building was built of re-pressed brick and the entire structure, except the porches, surfaced with stucco



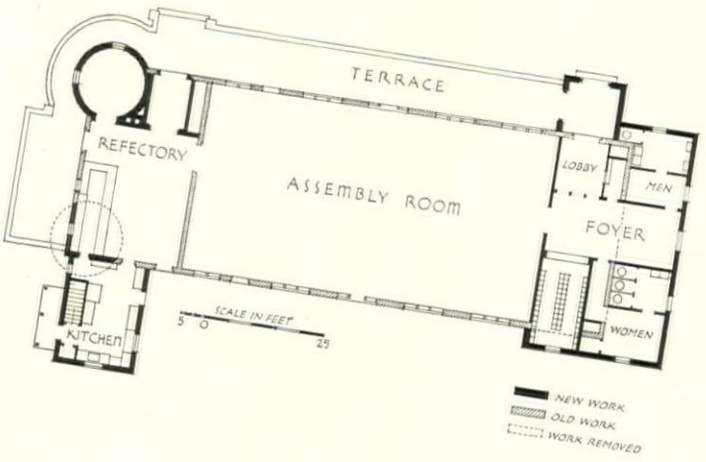
SECOND FLOOR



FIRST FLOOR











In the plan above one of the silos has been used for a private dining room off the refectory. The two small pictures on this page show views of the structure before alteration. The two other pictures illustrate the present park pavilion. The one immediately below is taken toward the refectory



Verburgt



Verburgt

JOHNSON MEMORIAL PARK PAVILION,

RACINE, WISCONSIN,

FRANK J. HOFFMAN, ARCHITECT

THE original structure, from which this unusual alteration was developed, was built about 1915 as a large cow barn, one of the principal buildings on a farm of almost 300 acres now being utilized as a part by the city of Racine, Wis. Part of the farm has been converted into a golf course, and it was felt that an alteration to the barn. with the addition of a small locker house near the golf course, would serve as an adequate public pavilion. At a cost of approximately $15,000, the barn was altered, as shown in the accompanying illustrations and the plan on the opposite page. The hollow tile walls of the original structure were retained. The floors of the interior are quarry tile except in the assembly room which has been surfaced with terrazzo over a waterproof concrete slab on a cinder fill. The roof is supported by exposed beams under a matched board ceiling. Heating is by a forced hot air system, and the entire building has been insulated with an efficient type of flexible insulating blanket



Guild-Warnick

A comparison of these two views shows the effect of surface cleaning and simplification of exterior design. Notice particularly how the scale of the three lower stories has been increased by the change in fenestration



Crawford

ONONDAGA COUNTY SAVINGS BANK,

SYRACUSE, N. Y., HALSEY, McCORMACK &

HELMER, INC., ARCHITECTS

THE former banking room was originally three steps above the sidewalk and was arranged on an old-fashioned circular plan, as shown below on the opposite page. The alteration lowered the floor to the street level and extended the bank's space to include the entire first floor of the office building, shown above. This necessitated the elimination of eight of the old columns and the addition of seven new ones to produce the interior which is illustrated above on the opposite page. The new plan of the banking room made possible a redesign of the exterior of the building, transforming the two lower tiers of windows into single arched openings and eliminating the cumbersome stone porticoes at the entrance. The alteration was done to provide the bank with reserve facilities for an estimated 25 years' growth. The vaults were relocated in the basement. New heating and ventilating equipment was also installed

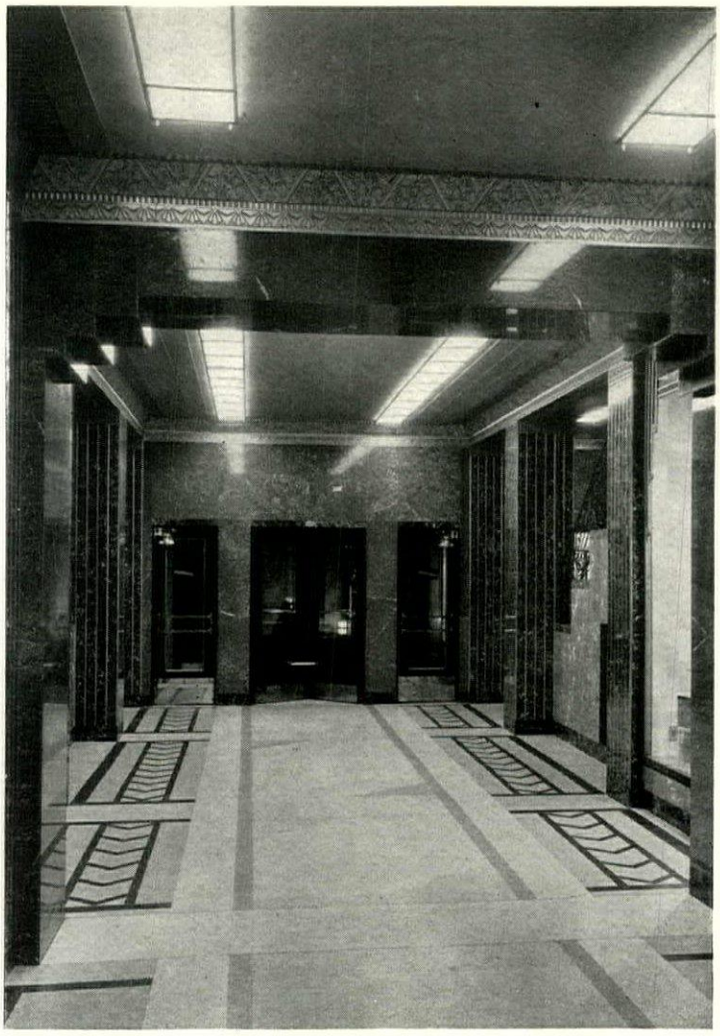




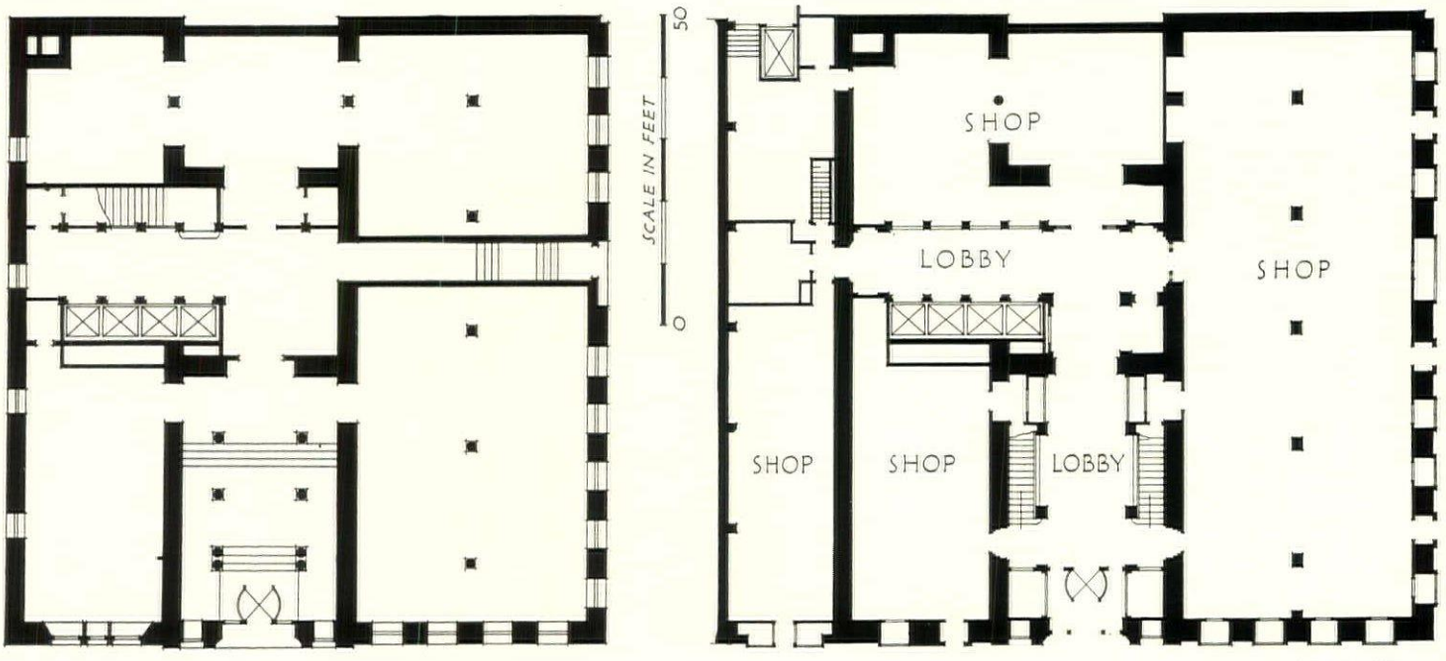
Guild

Above, Nyholm & Lincoln



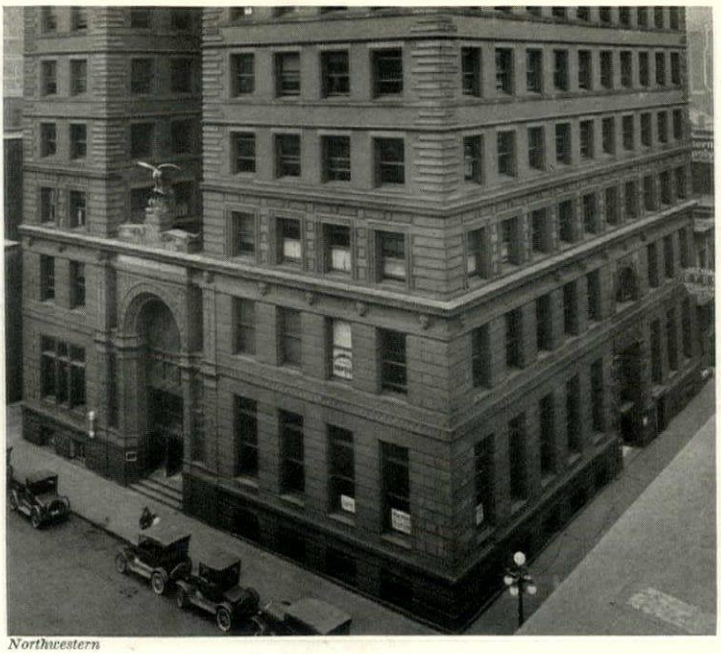


Northwestern

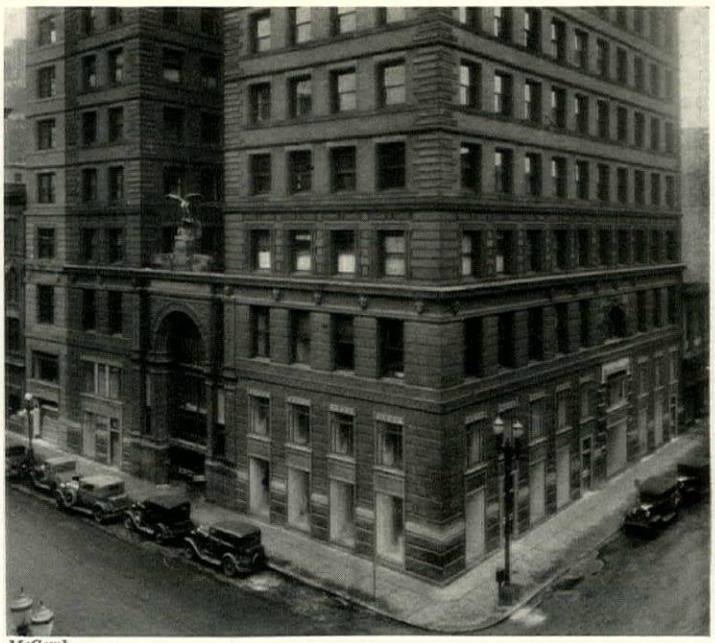


ORIGINAL

ALTERED



Northwestern



McComb

The building before and immediately after alteration. At the left edge of the picture directly above is the 20 ft. addition which helped materially to increase the rentable area of the building

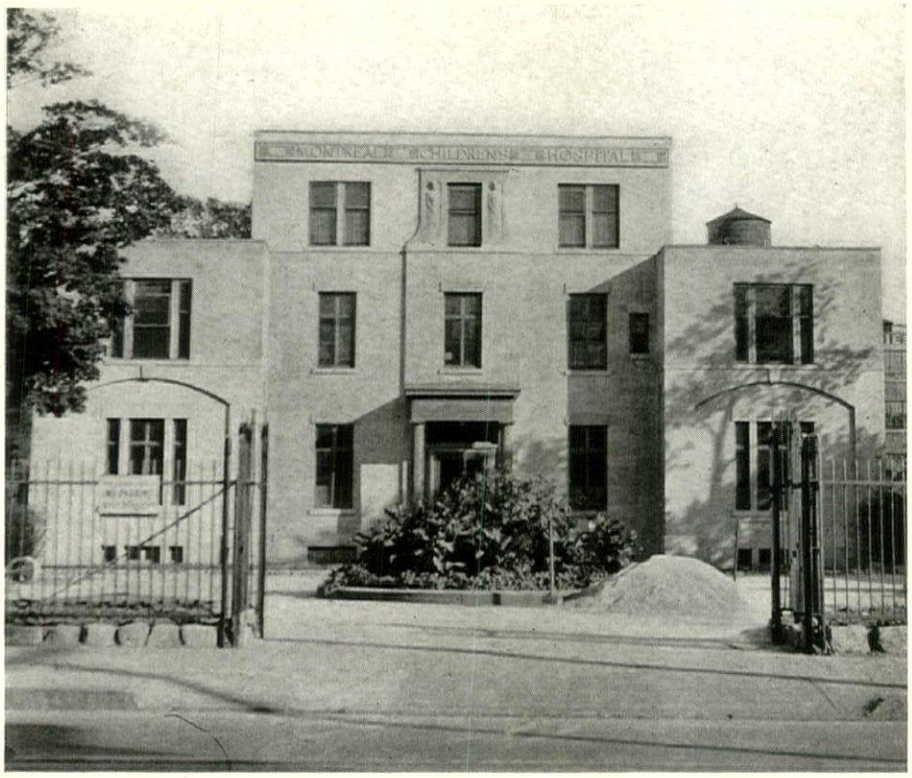
N. Y. LIFE INSURANCE BUILDING, ST. PAUL, MINN., TOLTZ, KING AND DAY, INC., ARCHITECTS

THE alteration to this building is an example of what may be done to increase the rentability of the Victorian type of office structure which may be found in almost every city in the United States. The first floor of the old building was over five feet above the sidewalk. By lowering the first floor to the sidewalk level, it was possible to interpose a mezzanine floor and gain approximately 9,000 sq. ft. of rentable area. At the south side of the building an addition was built on a strip of land approximately 20 x 100 ft. which was designed to match the existing structure. This added 31,500 sq. ft. to the building which, with the redesign of the first floor, increased the rentable area almost 50 per cent. The plans on the opposite page show the manner in which the first floor was replanned and the pictures above the plans show "before and after" views of the building lobby. The objection to the monumental character of the old lobby was overcome by lowering the ceiling and resurfacing the entire area with marble. The floor is terrazzo and the trim and hardware are of cast aluminum

A part of the coffee shop which occupies one of the new rentable areas off the elevator lobby

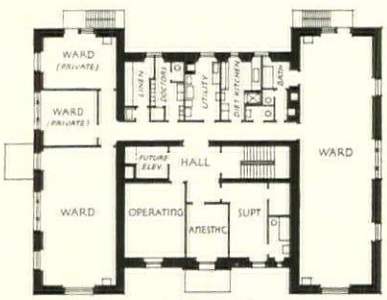


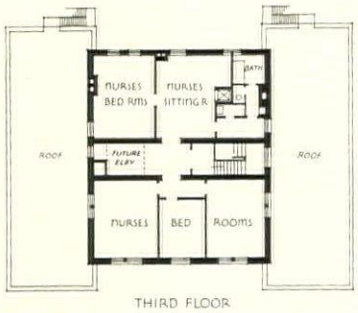
Schawang

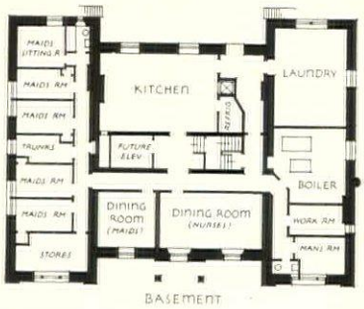


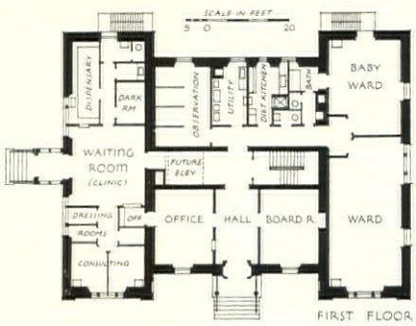


CHILDREN'S HOSPITAL, MONTREAL, CANADA, HUNTLEY WARD DAVIS, ARCHITECT







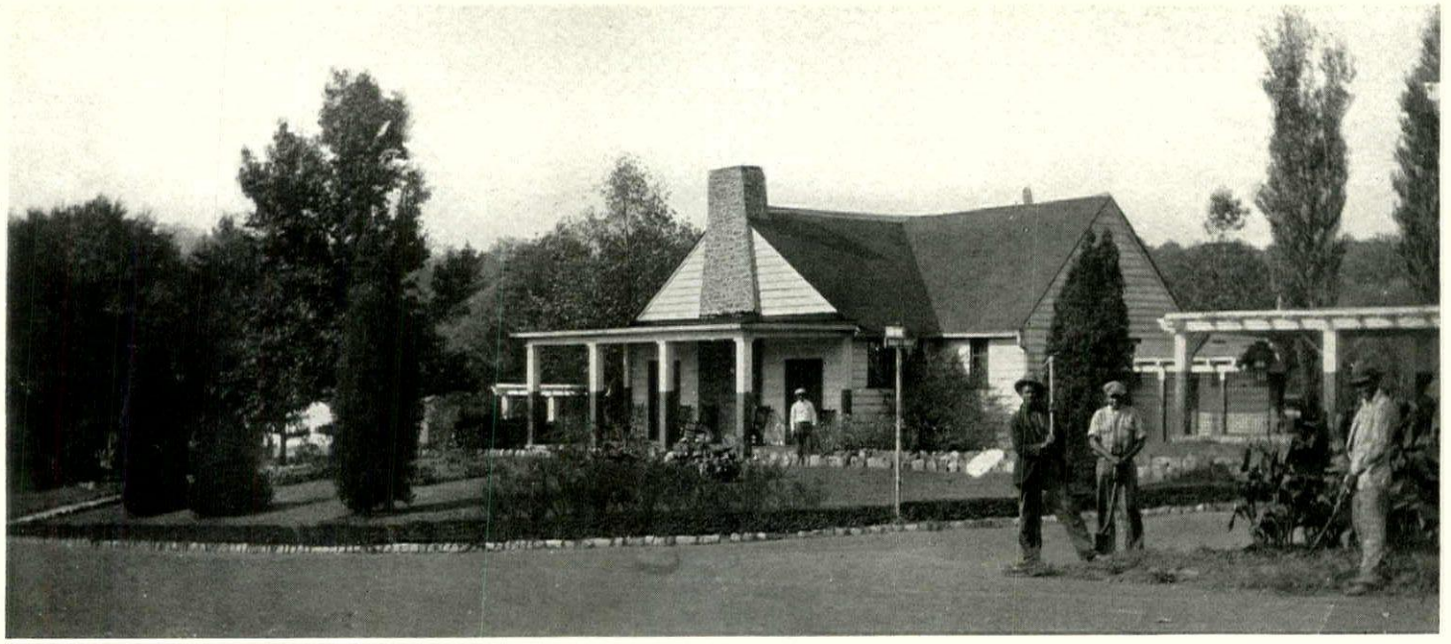


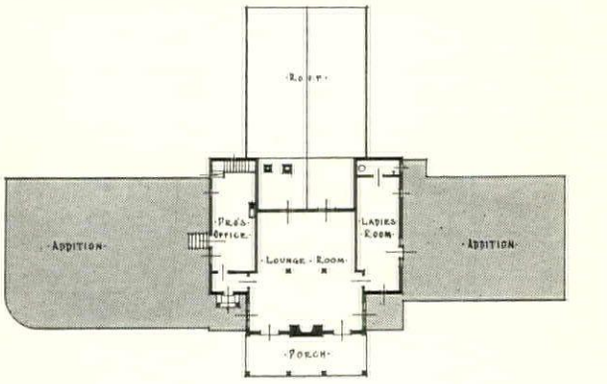
THE original structure shown in the small illustration at the top of the page is about 73 years old and was originally a private house, although it had undergone some change and had been used as a hospital for a number of years. The operating room and the other large rooms in the front of the central portion of the building were not changed during the alteration. The large wings, however, were divided, as shown in the plan of the first floor, to form wards and on the east side a clinic. The basement was entirely remodeled to include service facilities, a kitchen and staff dining room. In addition to these changes a third floor was added to provide living space for the nurses. The original structure contained an approximate total of 9,400 sq. ft. As altered, this area was enlarged to 13,200 sq. ft., at a cost of $61,500. The exterior is covered with stucco and the interior is finished with gypsum plaster. The floors throughout the operating portion are linoleum

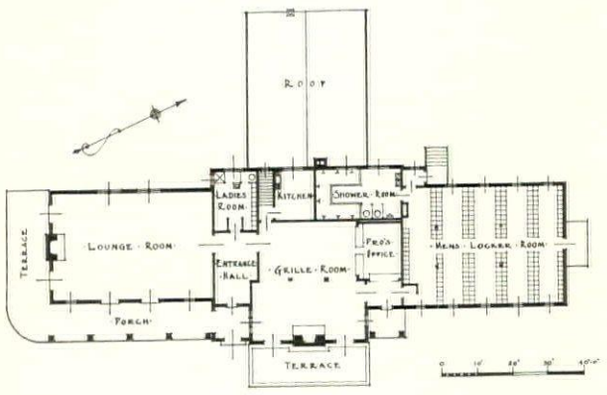


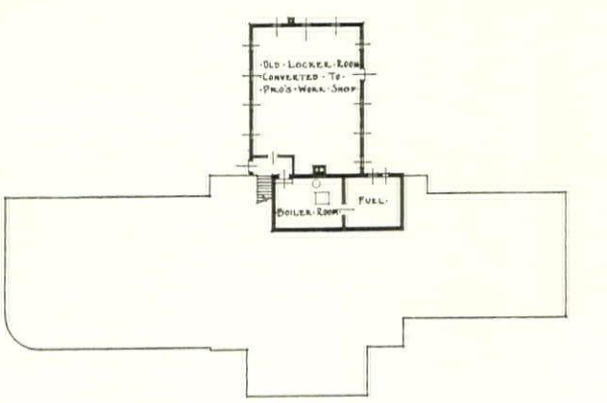
Tebbs & Knell

ANSLEY PARK GOLF CLUB, ATLANTA, GEORGIA. WILLIAM J. J. CHASE, ARCHITECT









ANSLEY PARK GOLF CLUB, ATLANTA, GEORGIA, WILLIAM J. J. CHASE, ARCHITECT

As shown by a comparison of the pictures at the top of these two pages, the present golf club was developed by constructing an addition to what was already an efficient small structure. The alteration consists largely in the addition of the lounge and locker room wings with a rearrangement of the central portion to increase its efficiency in view of the added space. The total alteration was a comparatively inexpensive one, the various contracts totaling $16,000 exclusive of fees. Foundations and chimneys are of granite. The terrace portion and shower rooms have terrazzo floors; all other floors are quarter sawed oak except that in the men's locker room which is cement. A large unit heater is used for the lounge room and the men's locker room, direct steam radiation being used elsewhere. The partitions which separate the shower room and the men's locker room from the rest of the building are sound insulated

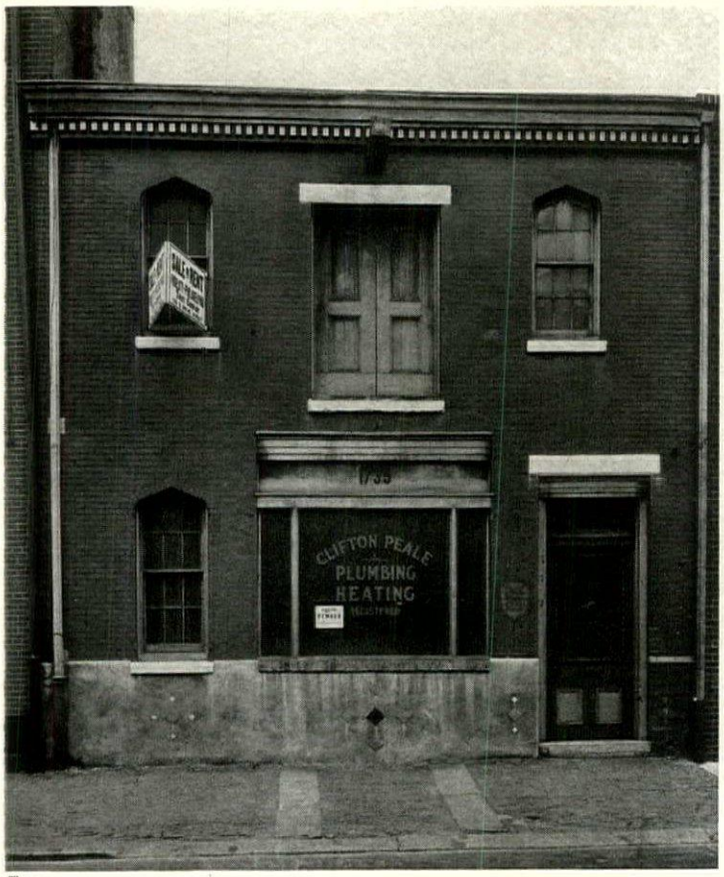


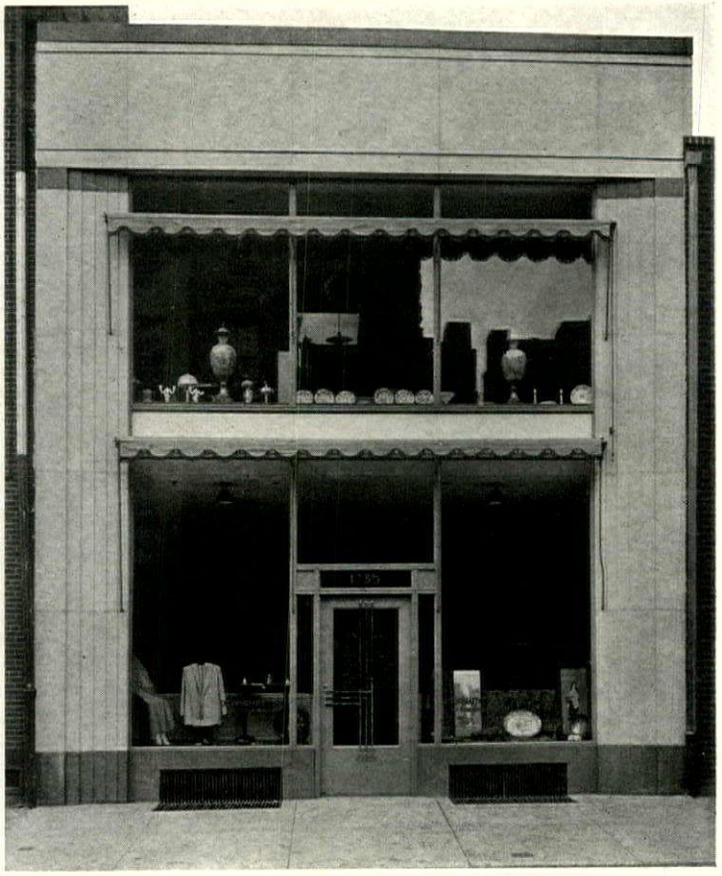
Tebbs & Knell Photos



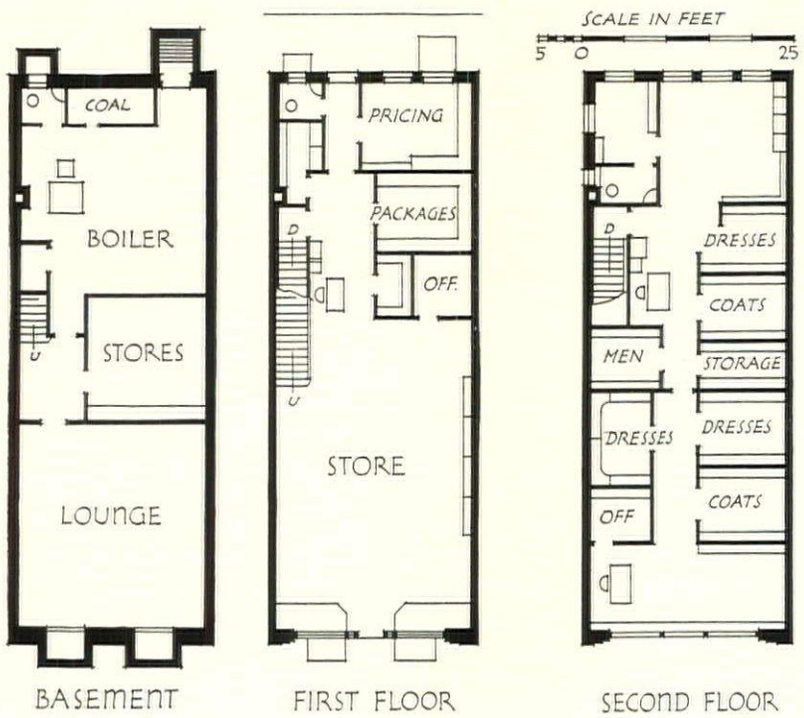


Three views of the completed alteration. The terrace in the picture above was formerly the portion of the old building and the new portion shown at the left opens from the lounge room. The picture below shows the southwest corner of the lounge room



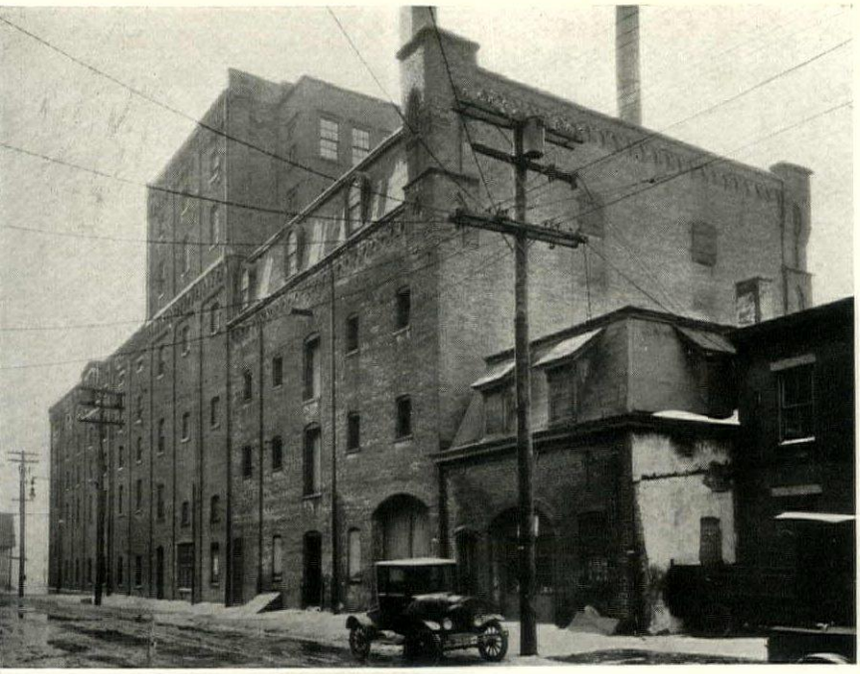


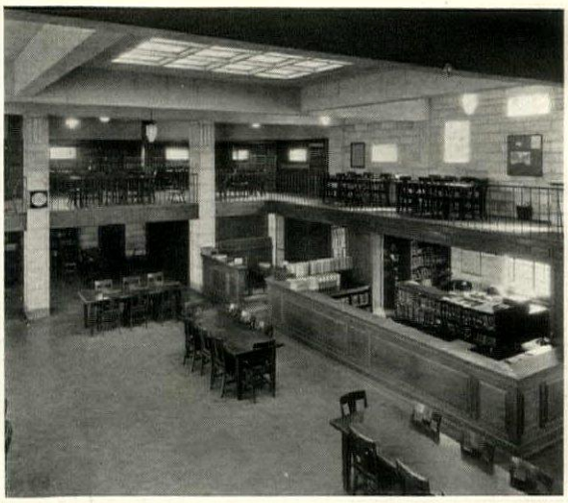
Evans

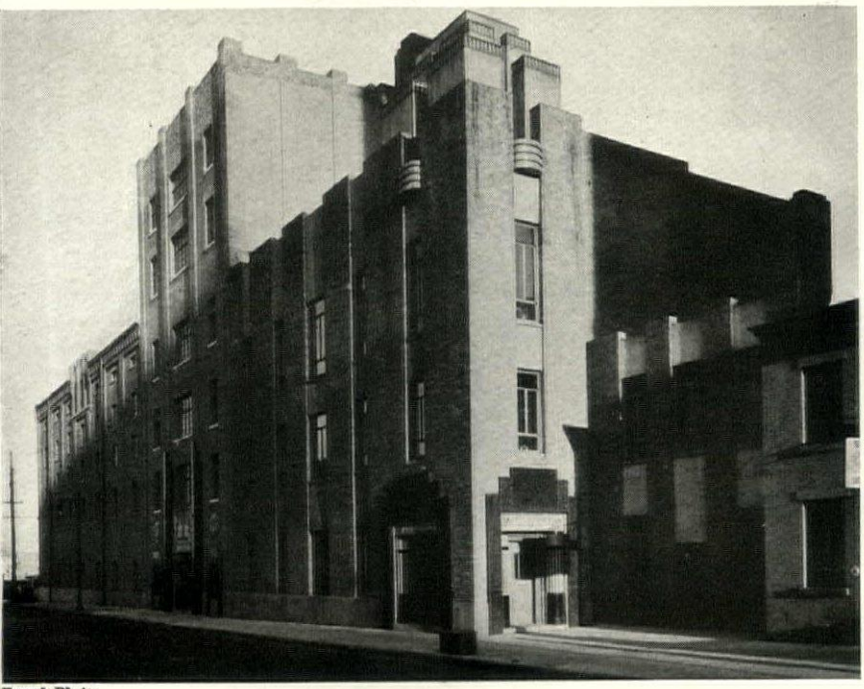


1735 SANSOM STREET, PHILADELPHIA, PA., SIMON & SIMON, ARCHITECTS

THE problem presented to the architects in this remodeling operation was to develop a completely equipped store with an exterior which would provide a maximum opportunity for display and with an interior arranged to utilize most efficiently a comparatively restricted space. A study of the plans and a comparison of the two pictures at the top of the page show well the success of the architects' efforts. Upon completion of the alteration a tenant was immediately secured at a rental that netted the owners considerably more than they had thought possible to obtain. The old building had been at one time a stable, and immediately before the remodeling was begun had been used as a shop for a plumbing and heating contractor









French Photos

NEW JERSEY LAW SCHOOL,

NEWARK, NEW JERSEY,

JOSEPH B. WERTZ, ARCHITECT

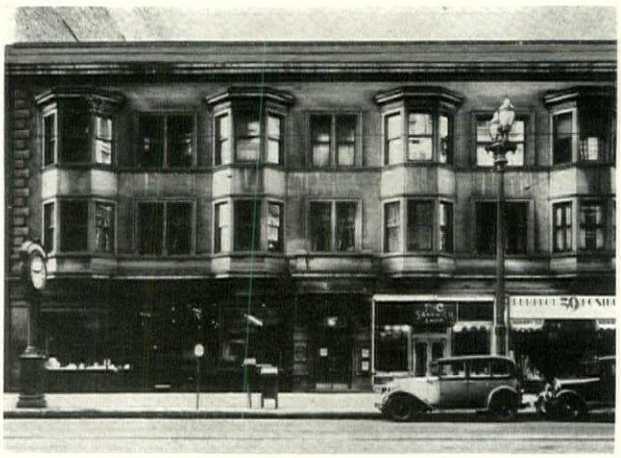
For many years the old structure illustrated at the top of the page was used as a malt house and before 1918 was a manufacturing plant for a lager that was famous throughout America. Recently the building was acquired by the New Jersey Law School. In the fall of 1930 the alteration was completed and now law books are stored where the brew was cooled. As shown by a comparison of the old and new buildings, the facade was redesigned and the entrance trimmed with black Swedish granite. The interior of the lobby is surfaced with granite and trimmed with aluminum



Hawkins

In this alteration for the Guardian Trust Company the simplification of the second story has done much to add to the attractiveness of the building





The owner of the building, The Webb C. Ball Company, is a firm of jewelers and the building has been designed to advertise the business and to attract a high type of tenant to the space in the upper two floors







Penthouse Studios

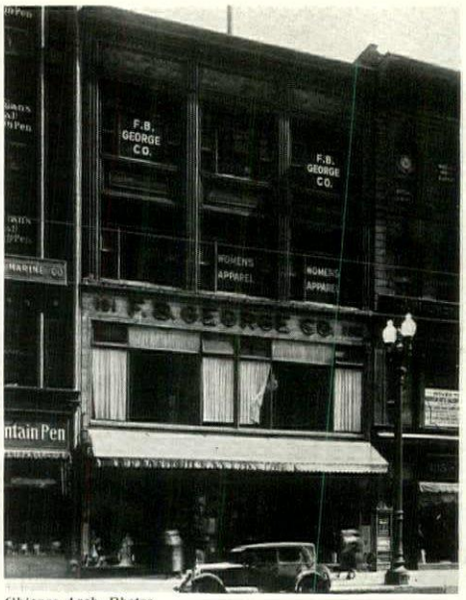
Although there was no essential change in the interior of this building, the application of the new facade has completely changed the character of the structure

THE three projects illustrated on this and the opposite page are typical of the majority of commercial remodeling and alteration jobs. In this kind of work the desire of the owner may be twofold: first, to improve the exterior appearance of the property in order to enhance its value or as an invitation for people to buy; secondly, to produce an interior as attractive as the exterior, or to improve what is often a poor arrangement of selling space and equipment. These three buildings have been chosen as representative of alteration projects in which only the exterior of the building has been remodeled. Such alteration is often done when the owner already occupies quarters in the building and feels that he may attract other tenants by improving the exterior appearance of his building

REMODELED STORE BUILDINGS,

CLEVELAND, OHIO,

WALKER & WEEKS, ARCHITECTS



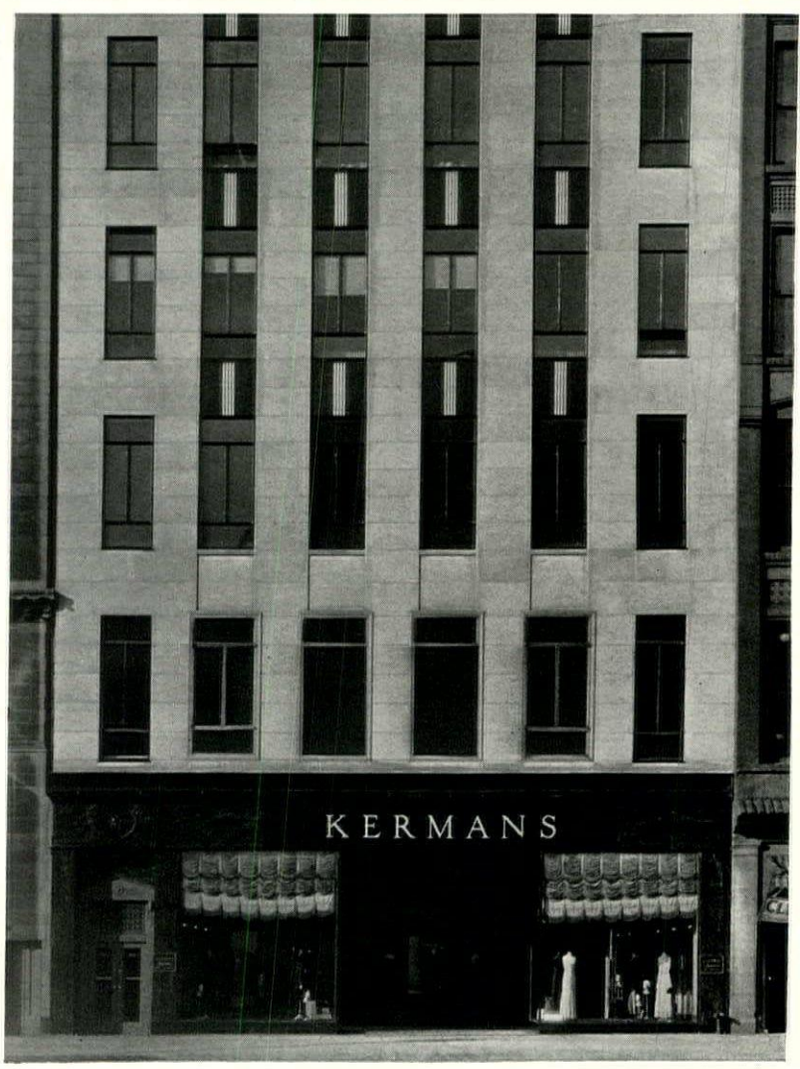
Chicago Arch. Photos

The floor area of the remodeled store is approximately the same as that of the old one shown above but because of the changed type of occupancy the revenue increased substantially. The building was entirely redesigned inside and outside at a cost of approximately $151,000





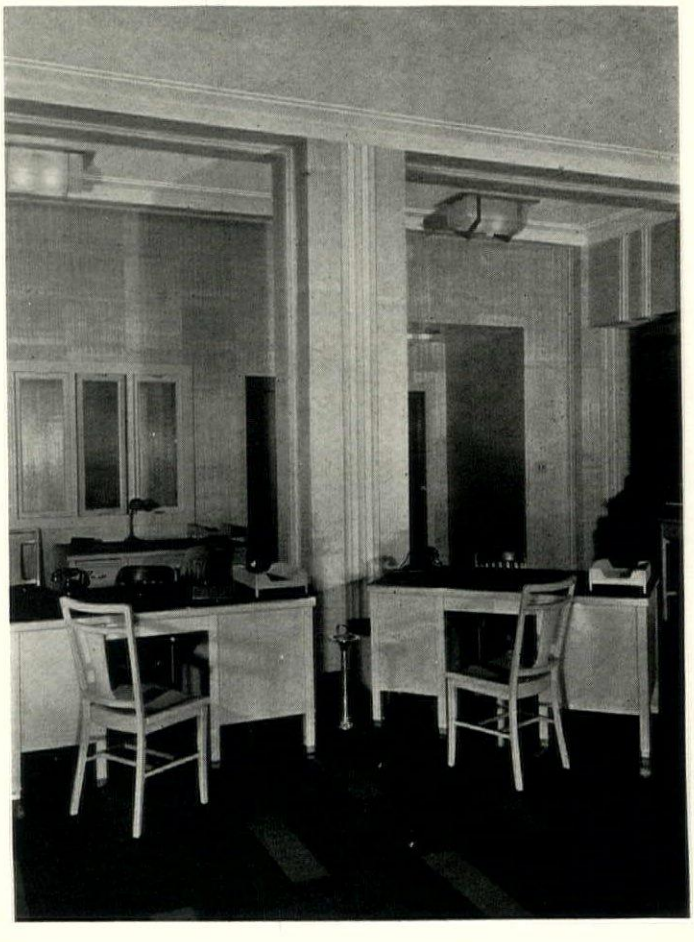
The owners of this building were faced with the alternative of improving its exterior appearance and interior plan or losing the tenants. The renting area was unchanged, and the cost, including some interior work, was approximately $29,000





This project is an example of a building where a tenant was secured and the building remodeled to suit his special requirements. In addition to a redesign of the facade which accomplished a radical change in the character of the building, the interior was completely replanned. The entire operation was done at a cost of approximately $105,000





REMODELED STORE BUILDINGS,

CHICAGO, ILLINOIS,

HOLABIRD & ROOT, ARCHITECTS

A COMPARISON of these "before and after" photographs show the wisdom of improving the exterior appearance of outmoded commercial structures. It is interesting to learn that the owners of the three buildings illustrated in these two pages feel that the alterations were entirely successful and that the expense is already economically justified. In each case the exterior was completely redesigned and a varying amount of alteration made to the interiors. In many instances the remodeling of an old building is essential not only in order to hold the present tenants but also to attract new ones, and in many another case the owner is compelled to change the exterior appearance and the interior layout of his structure to suit the requirements of a substantial tenant or the building will remain vacant and unproductive. Although in some instances the floor area of the property is not increased, and may even be decreased, the fact that modernization holds the old tenants and attracts new ones implies a substantial increase in income





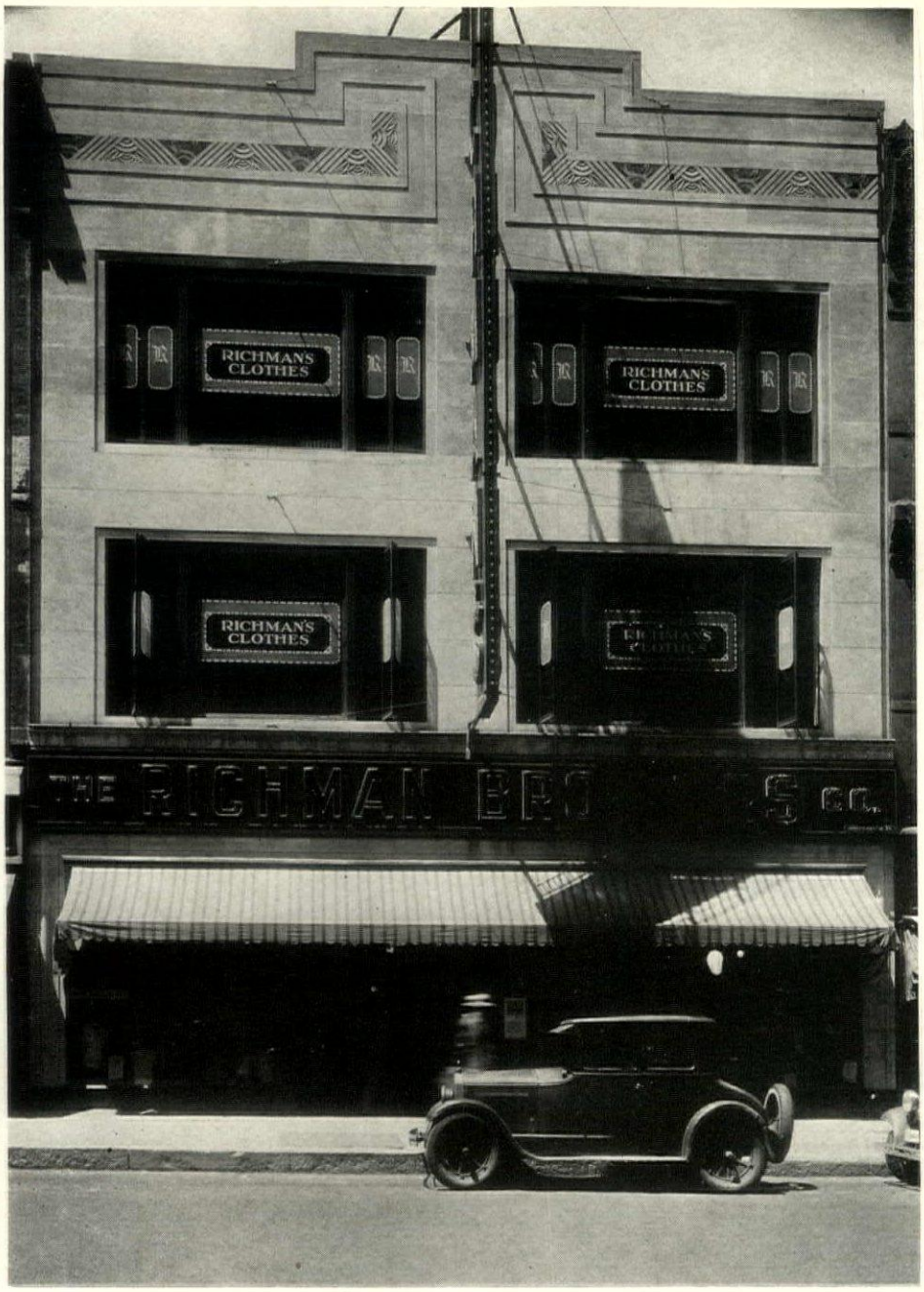
Directly above is a view of the old Rogers Building. At the right is the first alteration to improve the facade and to produce a more efficient structure for an expanding business. Below is illustrated the latest alteration to the Rogers Building. The particular type of design has been chosen to adhere to the California tradition and to harmonize with the buildings of its immediate locality



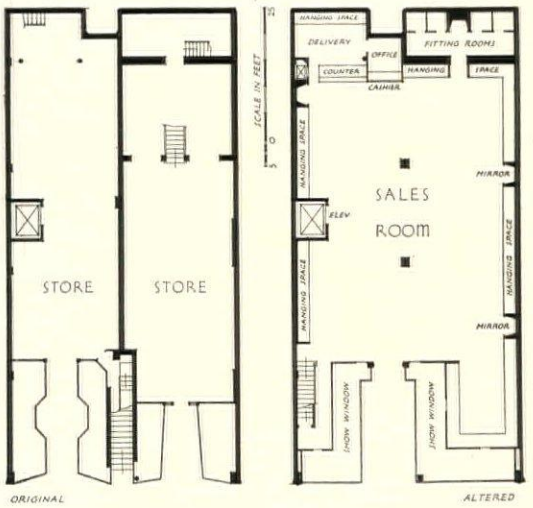
Anderson *Above, Faulding*

ROGERS BUILDING, SANTA BARBARA, CALIF., SOULE, MURPHY & HASTINGS, ARCHITECTS

At the present time a determined effort is being made by the executives and councils of many cities throughout the United States to improve the appearance and layout of their communities. In the States on the West Coast the activity is most noticeable and the city of Santa Barbara particularly has done much to enhance the attractiveness of her streets. The three pictures on this page illustrate forcefully a succession of improvements to what was originally an old, cumbersome and inefficient structure. In many instances the degeneration of an entire district may be arrested by the judicious renovation of block fronts







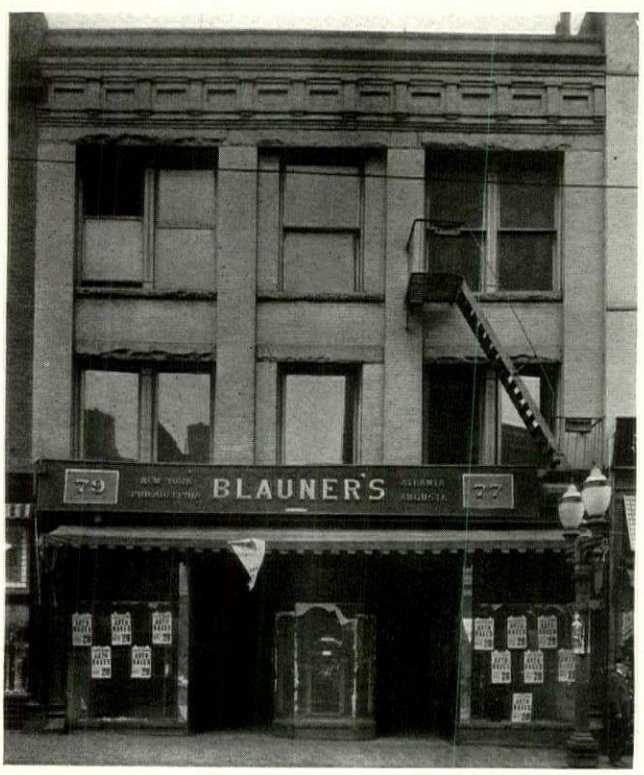
ANOTHER example of a building remodeled to conform with the special requirements of a new tenant. In this project two stores were combined into one and the wood bearing partitions of the interior were removed. In their place a skeleton steel frame was used, new stairs were installed, new floors of asphalt tile laid, and the entire interior replastered and decorated. The radical change of the exterior may be seen by comparing the two photographs. The cost of approximately $22,000 includes the show windows and the mechanical work made necessary by the new arrangement of the interior

STORE FOR RICHMAN BROTHERS CO., MINNEAPOLIS, MINNESOTA,

LARSON & McLAREN, ARCHITECTS



Courtesy, Atlantic Terra Cotta Co.



STORE FOR J. LECHIN & CO., ATLANTA, GEORGIA, MORGAN, DILLON & LEWIS, ARCHITECTS

THIS antiquated store building was completely redesigned both on the exterior and interior, the only part of it left intact being the two party walls. The basement, formerly only 6 ft. high and having a dirt floor, was utilized as a sales basement. The height was increased to 13 ft. and a cement floor laid. Mechanical ventilation was installed. A new stair tower and elevator were included as important parts of the interior changes and the facade of the building was redesigned in terra cotta, metal and glass, to increase the show window area, as illustrated by a comparison of the two pictures on this page. The cost for the modernization, exclusive of fees, was approximately $58,500

SHOPS AND STORES FOR MODERN MERCHANDISING

BY VAHAN HAGOPIAN

COMPETITION in retail selling is especially keen in a period of depression, and merchandisers are in constant search of ways of attracting the buyer. Manufacturers improve their packages, redesign the boxes, modernize their appearance. Merchants likewise must modernize their shops to attract the attention of the passer-by and to serve him more conveniently and efficiently when he has entered. Excepting only the location of the store, its appearance or its style is its most effective selling asset. It is the setting for the merchandise which must be displayed at its best. The store itself — front, interior and fixtures — are silent sales forces that directly affect the income. In making the most of the possibilities of the particular store, the trained architect with a creative imagination can modernize in such a way as to amortize the cost through increasing the store's gross sales.

The store-property owner is in search of ways to retain his tenants, and in this he must meet the competition of the more attractive newer buildings. His way out is to modernize. To get the most for his investment in the remodeling, he must employ the competent architect to make the most of the present structure consistent with the budget.

The original, compelling idea — the skillful, customer-bringing design — is the most important element in modernizing the store. Without such a design the investment in materials and labor is wasted. The architect must supply the brains and the taste. The opportunity in this field is real though beset with many difficulties.

Difficulties. Most specialized shop and store designing is done for the tenant who must count on amortizing the cost of the modernization during the period of his lease of the store property. Economy is the watchword, frequently synonymous with cheapness, sometimes with shoddiness. This leads many merchants to deal with even third-rate "fixture and front" makers who are without either the wisdom or the ability to make the most effective design for the particular merchandise, either financially or psychologically. One of the greatest difficulties the architect encounters is in convincing the merchant that true economy is only to be had by capitalizing the *best* design for the modernization, the design that will move his stock, rather than employing mediocre men at the lowest price.

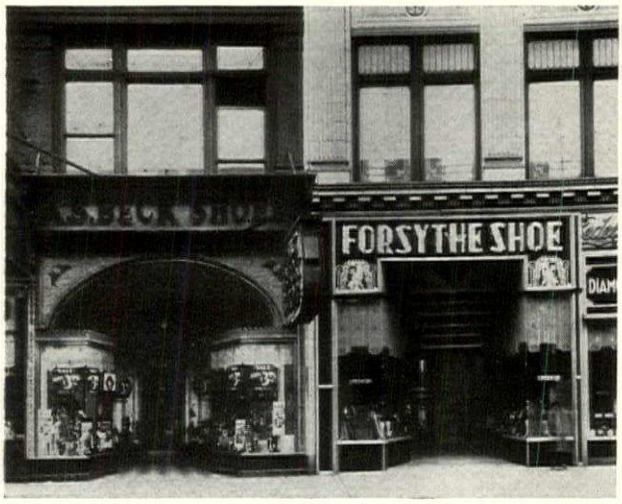
The second difficulty is in educating some merchants to see the necessity of adequate remuneration for the architect who provides the idea and the design that make the modernized shop stand out, financially as well as visually, from its competitors.

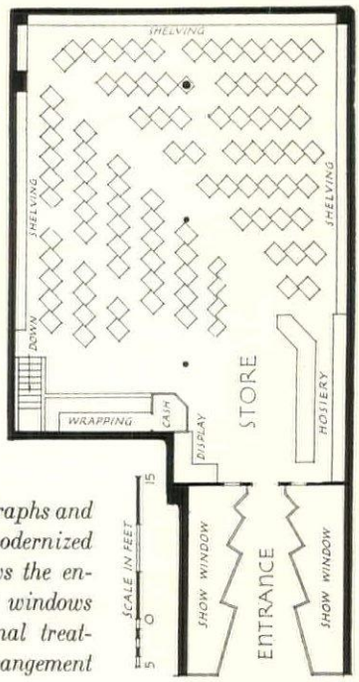
The third difficulty of the architect remodeling a store is the technical one of making the most of a necessarily limited budget, the design to further the three purposes of the merchant with the least expenditure.

The *Purposes* of Owner and of Tenant are:

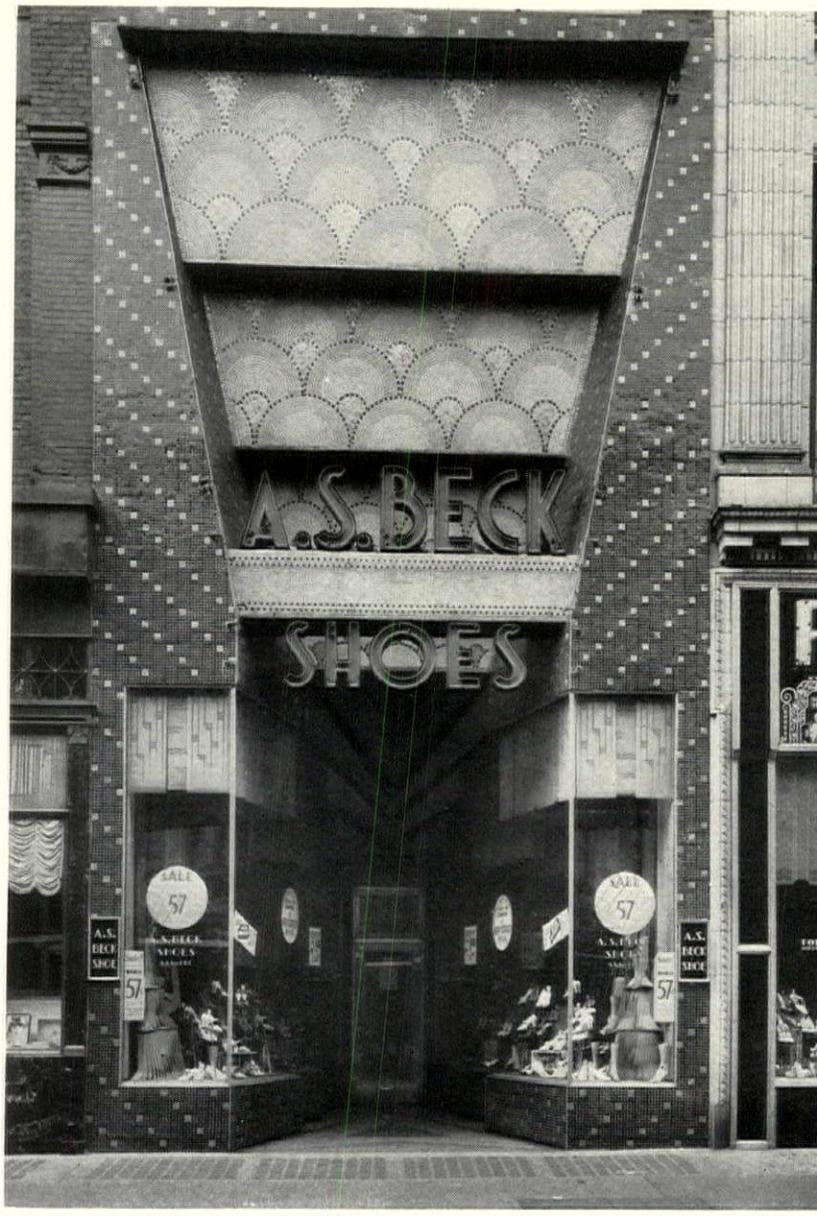
Property Owner —

1. To attract new tenants
2. To hold old tenants
3. To increase income from rentals





"Before and after" photographs and plan of a completely modernized shoe store. The plan shows the entrance with large display windows and the interesting diagonal treatment of the seating arrangement

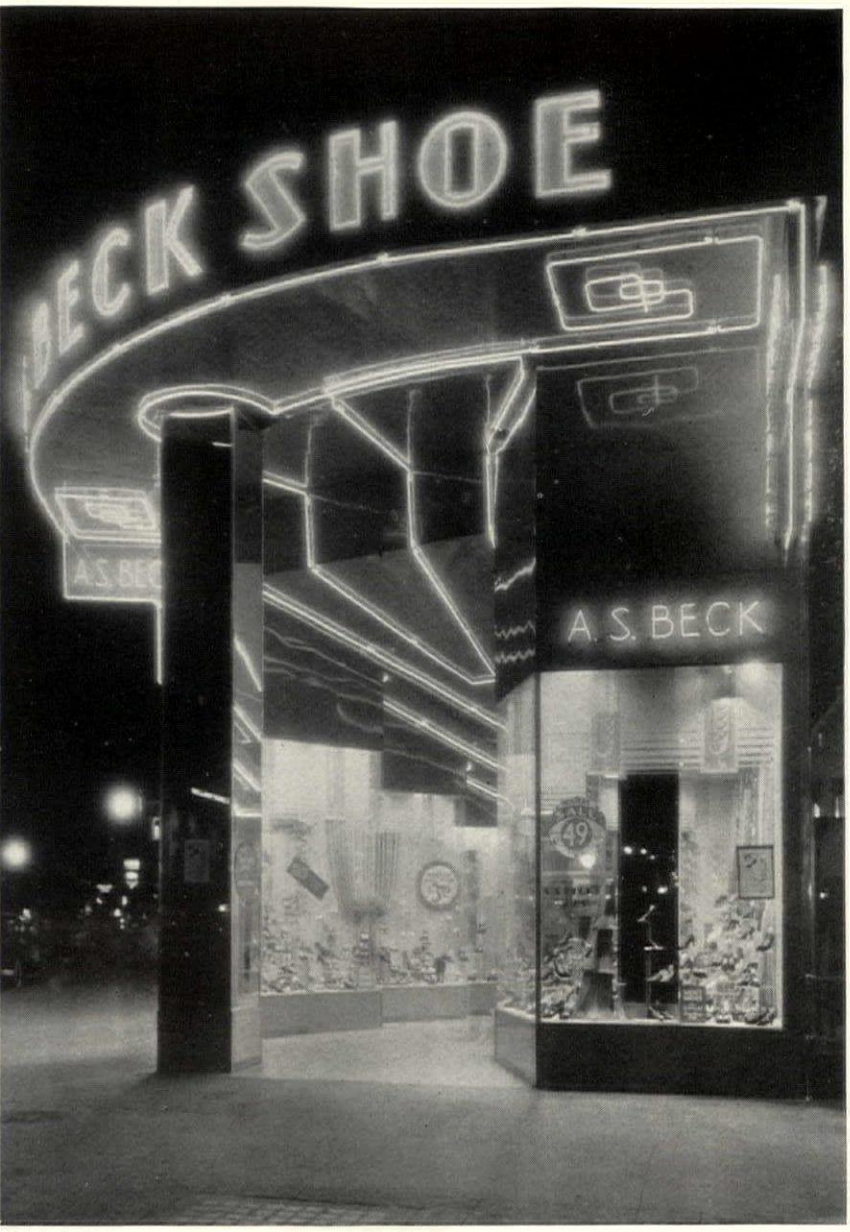


Van Anda

STORE MODERNIZED FOR THE A. S. BECK SHOE CORPORATION, FULTON STREET, BROOKLYN, N. Y.

VAHAN HAGOPIAN, ARCHITECT

A STRIKING example of the value of imagination in design to create an attention-attracting store front. The surface, including the second story, is of mosaic tile in rich purple-madder, black and gold. The center portion which carries into the ceiling is of shades of tan and ocher with black and silver. The limitation of the structural first floor beam has been made an asset in the design. Store fronts which attract buyers are most important elements in merchandising in this highly competitive market which is intensified by the present business situation





Night and day views of a store on 14th Street, New York; Vahan Hagopian, architect. The effective use of color and light is essential in attracting certain classes of customers. Here the wall surfaces are of tangerine porcelain-enamel sheets and the lighting is designed in lines of neon tubes. The column is encased in mirrors

Van Anda Photos

Store Tenant —

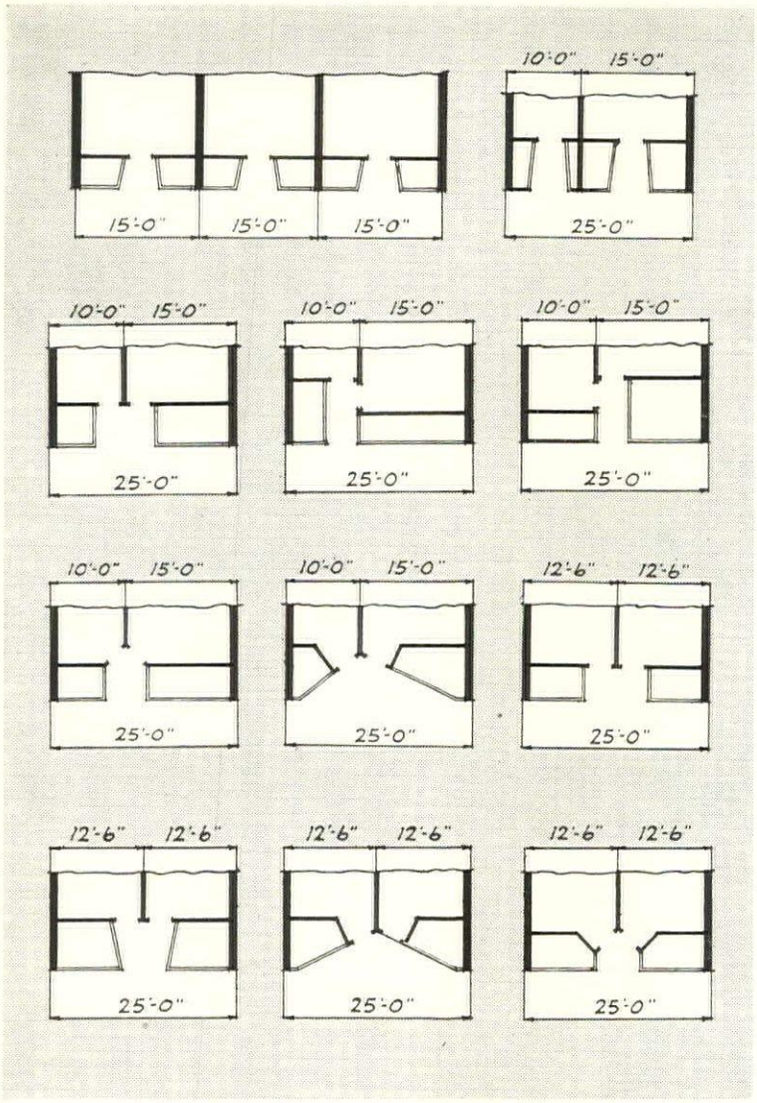
1. To attract customers in competition with neighbors
2. To display merchandise in the most compelling way possible
3. To serve customers promptly and pleasantly, making them "repeat" customers

The architect can serve both tenant and owner. He must, however, be sure which one is employing him and understand thoroughly the relationships.

The store front is usually the first portion to be remodeled and it must be redesigned to:

1. Attract attention
2. Display goods to best advantage
3. Invite entering

As illustrations we show a variety of suggestions of store front possibilities, in diagrammatic plan. The prime requisite is usually the maximum of window frontage. This should mean the maximum of *effective* display space, clearly visible and arranged to draw the passer-by into the shop. Lower priced merchandise especially must be fully displayed *in the window* for the buyers are *window-shoppers*, not entering unless they see what they want. And the window display must make them want something shown. An attention-arresting store front need not be elaborate. In fact, bold simplicity with contrasts is the most effective type of design. Freshness of form and striking materials, color and lighting produce the customer-getting results.



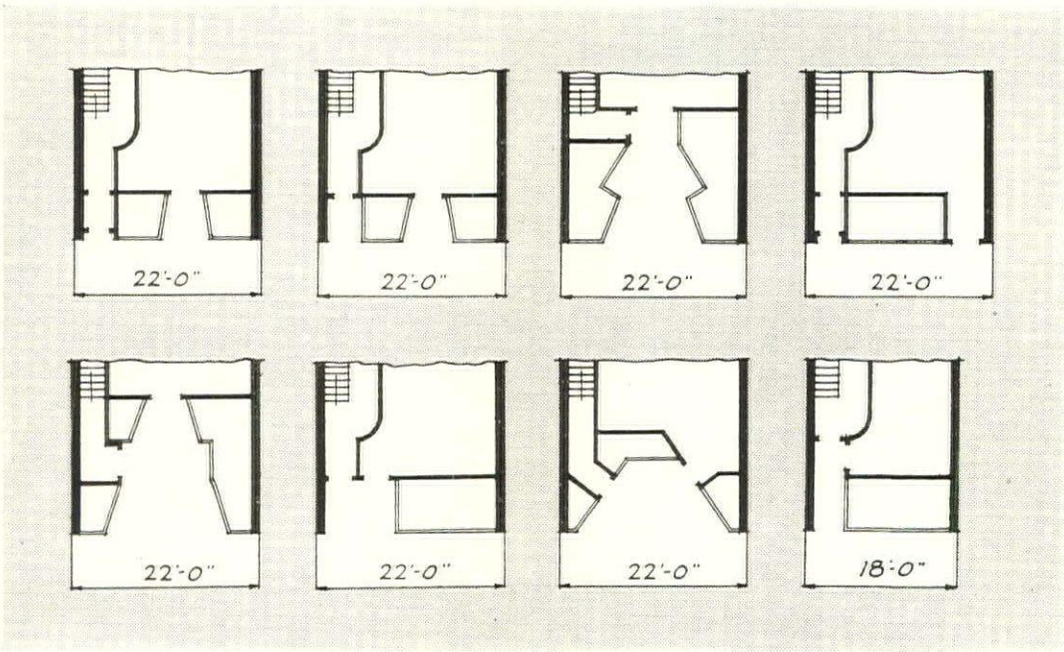
CHECK LIST

Store Front. Enlarge show window. Cut down piers. Install shallow display cases on piers. New frame for show window, bright metal. Paint old trim. Consider shape change for show window. Consider use of muntins for specialty shop. New window and door trim. New transom window. Prismatic glass over window lights. Install new ventilating sash in over-window. Install silent exhaust ventilating fan in over-window.

Resurface all exterior walls: bright paint or lacquer, stucco, brick veneer, non-corrosive metals, sheet plastics, glass, vitrolite, stone, marble, terra cotta, faïence, mosaic or combinations of these materials. Carry resurfacing over as much area as possible.

Install new window background, with access doors, using plywood, veneers, paints, new composition materials, as micarta, formica, etc. Consider mirrors to increase apparent size of display. Replace show window lighting with higher intensity reflectors. Consider automatic color changing equipment: neon; tubular lighting; spot lighting; combination neon and tungsten; combination neon and Cooper-Hewitt; "daylight" bulbs. Consult lighting specialists and manufacturers.

Signs. Eliminate or minimize signs and names on show window. Substitute simple name plates inside window; consider small neon sign for purpose. Incorporate large name sign as an integral part of design. Eliminate obsolete electric signs; replace with modern type. New awning of striking pattern and color; new type louver awnings.



The diagrammatic plans show current solutions of the store front show window problem. Those at the upper left show typical stores of the subdivision of a 25-foot-lot store into smaller stores with the variations in placing of doors and sizes and arrangement of windows. The plans at the left show current solutions of the problem of giving access to stairs leading to upper stories, as well as to the store proper. These indicate possibilities and the necessity of ingenuity in plan to serve the purposes of particular stores

MODERNIZATION INCREASES RESTAURANT PROFITS

BY J. O. DAHL

TWELVE thousand restaurants will require the services of architects in 1933. As many more could be added to the list if the owners were told the architect's best story: that architecture is one of the most important factors in bringing people into a restaurant. Restaurant architecture has gone through several stages of development during the past twenty-five years. In the early nineties, the architect had to feature sanitation. As proof of distinction the better restaurateur demanded the lavish use of gleaming white tile, wide open spaces in the dining room, and, in many cases, visible food preparation.

Today, with city health departments to issue licenses, the public takes for granted that most eating places are sanitary. The realization of this was followed by a wave of decorative restaurant atrocities, largely Spanish and Moorish. This was followed by bizarre Arte Moderne. Failure followed rapidly because the public grew tired of that which was too unusual. Neither the architect nor the owner took into consideration the facts that:

1. Most restaurants depend on repeat business.
2. Restaurant patrons are more aware of architecture than theater patrons, retail shoppers or even hotel guests. Usually the restaurant patron must wait for service. During this time he can study the room. If he is a frequent patron, as the restaurateur hopes he is, circus architecture becomes tiring.

Food executives of today have apparently learned their lessons. The most profitable dining rooms are those that create an atmosphere of restfulness. Good examples are Schrafft's stores in New York, Boston and Philadelphia; Childs' new units in New York; new Harding Restaurant in Chicago; J. L. Hudson's department store restaurant in Detroit; Miramar in Columbus and the Woodward & Lothrop department store restaurant in Washington, D. C.

Good architecture increases restaurant profits. And good architecture can be classified under two headings: (a) long pull; (b) flash in the pan. Each can be justified.

The Frank G. Shattuck Company (Schrafft's restaurants) is an excellent example of long pull architecture. Basically it will always be in good taste. With a few changes it is good for the full twenty-one year period of the lease. It is comparable to classics in literature and music. There is always an intelligent audience for the best.

But the masses are fickle in their patronage. In large cities especially they crave novelty. Stores, theaters and newspapers capitalize on this demand. Restaurants can do likewise. But when they do so these points must be kept in mind:

1. Architectural or decorative tricks have a short life. Therefore the cost must be kept low enough so that it can be totally amortized in about three to five years' time. Then another novelty must be presented.
2. Novelty restaurants seldom succeed in small cities where a large amount of repeat business is essential.





Barnhill

3. Architecture and decoration can never take the place of good food, properly served, at a fair price.

A large percentage of new restaurants are started by men, and especially women, who have had no restaurant experience. The food business looks easy because it is done for cash and "people must eat." Secondly, most restaurants are opened on a "shoestring" and have a short term lease — from five to ten years. Consequently the new restaurants cannot afford to invest much in modernizing the structure. It is a wise architect who can convince the *building owner* to guarantee the fee, for if history repeats itself the restaurant will fail inside of ninety days. Most new restaurants go through this process. But the ownership of the building remains the same. And if the building owner did not guarantee the architect's fee, he has gained without cost to himself a modernized structure which he can rent with less difficulty.

You might expect that the depression would stop all restaurant building. This is not the case. Thousands of them will open in 1933. Hundreds will succeed — especially those well financed and capably managed by experienced food merchants.

Unquestionably the imaginative architect, working with a few progressive restaurants, could keep competition out of an average city. Amateurs especially would hesitate to compete with the unusual type of restaurant. Remodeling brings in more business and helps to keep out competition. It is an inexpensive business builder and cheap anti-competition insurance.

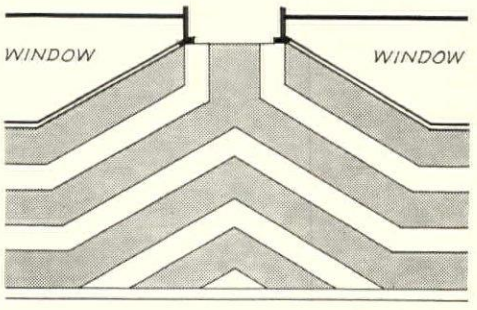
SUGGESTED CHECK LIST. To insure restaurant profits the architect must consider the complete picture, starting with:

Street: Is it in good repair in front of the restaurant? Keeping the street dust down lessens the cleaning job in the restaurant. Is curb straight for easy parking? A spotless white curb attracts attention. Whitewash is inexpensive and easy to apply each morning.

Parking Space: If there is no space on the street, an attractive parking space will bring in business. Neat signs, cleanliness and convenience please the public.

Sidewalk: It should be smooth and if possible carry out a suggestion of the inside color scheme. The sidewalk can be made to draw people in, as is illustrated by the sketch. In the sidewalk are several 8-inch strips of dark colored cement inlaid in the natural colored material. The effect upon the passer-by is psychological, if not actually physical. Unless conscious effort is exercised, he will follow the stripes. It may not be practical at present to tear up existing sidewalks and rebuild according to this plan, but it would be practical and possible to paint stripes on the sidewalk.

Signs: Most restaurants have inefficient exterior signs. A capable architect can design harmonious signs to cash in on the general architectural scheme. Action and color are almost essential where traffic is heavy. Adaptability of neon signs, floodlights, etc.



One type of sidewalk pattern which leads people into a restaurant

Windows: Windows are the restaurant's best advertisement. The architect who understands color values and showmanship could be kept busy doing nothing but designing profit-pulling restaurant windows. Provision for mechanical refrigeration where foods are displayed. Ventilation and means of preventing condensation on glass are necessary. Special cooking at window invites customers, rotisserie, flapjacks, or what have you.

Store Front: Byron Dixon of Omaha operates the smallest restaurant in town. He advertised, provided a menu above the average, served the best food available — and lost money! Then he changed the front of his tiny restaurant; made it attractive and outstanding enough to catch the attention of every passer-by. The exterior is faced with a glass composition in black and white with corrosion-resisting metal trim. The new tile front actually glittered! The result was the maximum volume of patronage. Hundreds of examples prove the sales value of an attractive front.

Awnings: This may be somewhat out of the architect's sphere, but the sales increasing possibilities of awnings can be proved. Colorful, they serve as a daytime sign.

Entrance: An attractive door is an invitation to enter. It should be easy to open. The passageway should not be crowded.

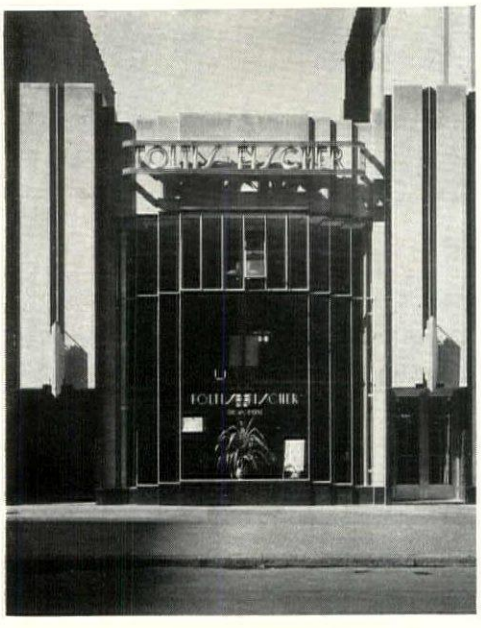
Ventilation: Restaurants are generally poorly ventilated. It is noticeable soon after one enters the front door. More business is certain for the store

These two pictures forcefully illustrate what may be accomplished through an understanding of restaurant problems and the application of architectural imagination. An ordinary cafeteria has been transformed into the attractive modern coffee shop shown below



Peyser & Patzig Photos

This restaurant, one of the Foltis-Fischer chain, designed by Hector O. Hamilton, associated with Erhard Djorup, architect, is an apt illustration of the use of a large front window and a mezzanine. A window serves admirably as an advertisement for the restaurant and a mezzanine often adds 20 per cent to the normal seating area of a restaurant space







Gottscho

that puts in a good system. An architect's job is not complete until he has done everything possible to have a ventilating or air conditioning system installed.

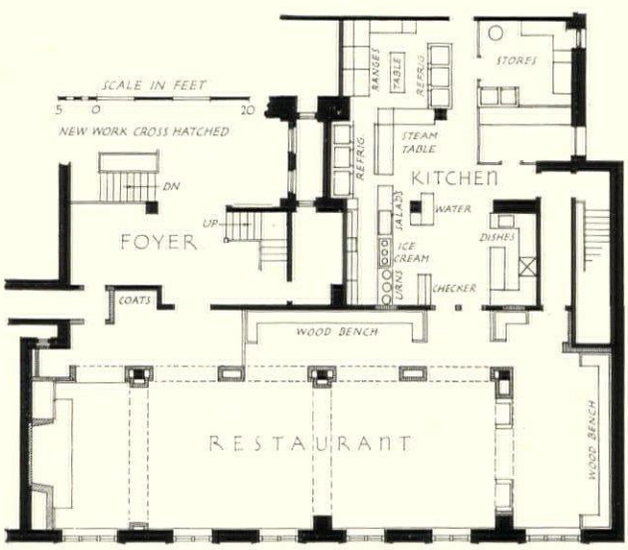
Dining Room Layout: It often pays to redesign an entire room. It may be advisable to change to a new type of service: table service to counter service, lunch room to high grade cafeteria, etc. Many failures result because a restaurant's type of service is obsolete. Just now cafeterias are returning to popularity. Coffee shops are and will continue to be popular. Beer will bring back the men's type of restaurant: sturdy, plain, well-lighted.

Acoustics: Noise results in many complaints and the loss of much patronage. The architect can do more to overcome it than rubber-heeled waiters, cushioned trays and noiseless counter tops. No job of remodeling is complete without absorbing noise.

Lighting: Another great weakness in restaurants. It is either a glaring white or a dull tea room glow which makes reading the menu a task.

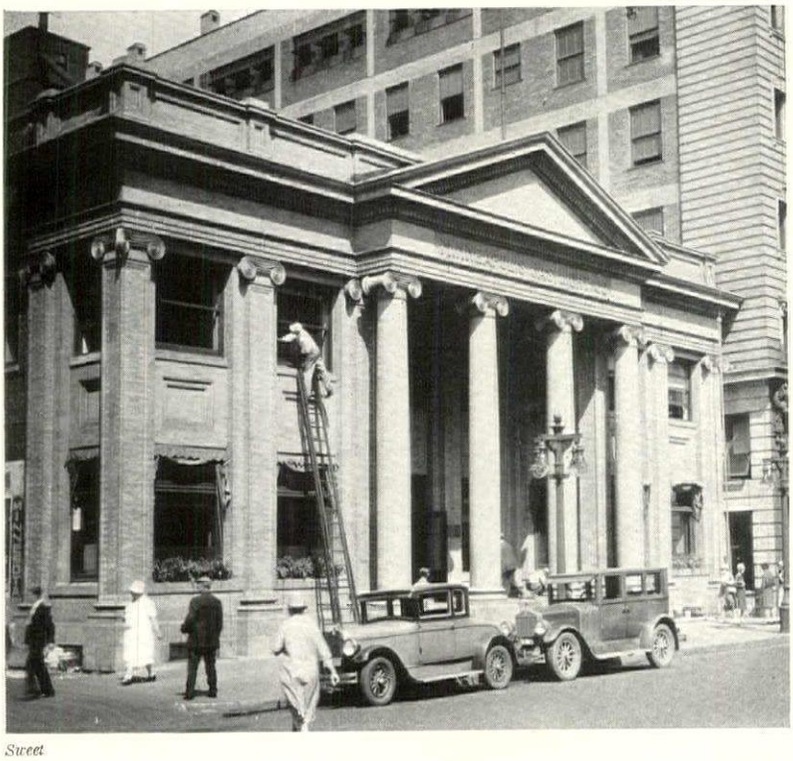
Kitchen Layout: Did you ever visit a restaurant kitchen? If so, you no doubt noticed how inefficiently it was planned. A kitchen is really the heart of a restaurant and must be rebuilt so that payroll costs can be reduced and better work accomplished. This calls for clever planning on the part of the architect and often necessitates consultation with a recognized authority on kitchen layout.

The room shown here was installed as a part of the major alterations to the Herald Square Hotel, further illustrated on page 34. The space it occupies was formerly devoted to small bedrooms. For the window treatment on the exterior the cost was $800. The interior was constructed and equipped for approximately $22,000 and according to the management has shown a profit since it was opened. Francis Keally was the architect for the restaurant portion of the hotel





Kammerdiener



Sweet

The picture at the top of this page illustrates the radical revision of the old office building shown below it. The new front is faced with aluminized brick. The architects were McEnary and Larson

New Departments: Many restaurants are finding extra profits in putting a delicatessen shop, bakery, butcher shop, or candy shop in an adjoining empty store — renting it on a percentage basis. Many others have taken over back rooms or second floors and have built in banquet or club rooms. Hawcock's Café of Monmouth, Ill., put in a student night club on the second floor and a delicatessen shop on the first floor adjoining the restaurant.

Preparing food for service off the premises has been profitable for many restaurants. But it has been only recently that some of the more progressive operators have put in special departments for this purpose. The restaurants which succeed most with this service, plan to divorce this department in so far as possible from regular service. This profitable tendency offers possibilities for architects in larger cities. It means rearrangement and remodeling of kitchens. In smaller cities, and often in villages, there are restaurants on busy streets or popular tourist trails that could profit from "curb service." This means more than the term conveys. The service is most successful when the restaurant front is rearranged to permit service from a counter in the window. This counter does double duty; service to passing pedestrians and to motorists through the use of special trays for automobile windows.

Last summer a Boston restaurant stimulated its



Kammerdiener

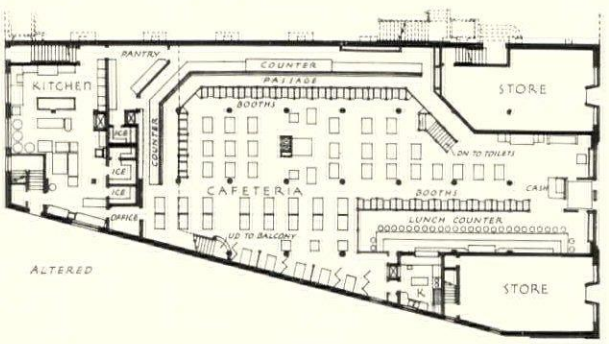
business materially by remodeling the front part of the room so that the entire first floor of the building could be opened. In pleasant weather flowers and shrubs were placed on the sidewalk and side walls, giving diners at the front tables the effect of dining out-of-doors (à la Café de l'Opéra).

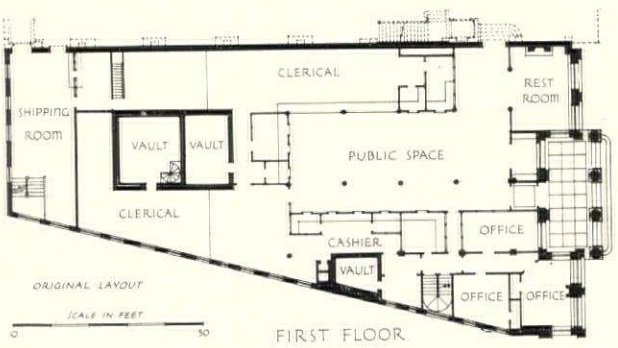
Many restaurants have back yards, roofs and other outside space which is ideal and profitable for summer service.

A New York architect was not satisfied to remodel and redecorate a restaurant. He followed through by setting art standards for advertising, selection of uniforms, furniture, draperies, china, glassware, menus, checks, match boxes, ash trays, telephone booths — in fact every detail of the restaurant visible to patrons. As a result the restaurant is one of the few in the country that blends architecturally and artistically, retaining at the same time all its practical features. A Western architect redesigned even the trucks delivering supplies to a restaurant chain so that they might have sales appeal as well as beauty.

The average restaurateur has very little imagination. The modern architect has a lot of it. There is an opportunity in almost every city for the sale of this imagination for the purpose of increasing restaurant profits.

The modernized restaurant interior is striking in simplicity of design in color and metal. Below are the old and new plans of the alteration





THE ECONOMICS OF MODERNIZATION

BY LOUIS C. STONE

THE chief need is for self-liquidating private works that will improve the quality of existing building space without adding to the oversupply. Marking time, going ahead very slowly or not at all with new competitive construction, the building industry is reconsidering the works of the immediate past to lay the ground work for normal conditions.

The individual home owner has at his service the specialist departments of makers of building parts, materials and equipment. In many cases they arrange for the financing as well.

The investment building owner can look to his mortgagee for cooperative financing for the purpose of maintaining or increasing the value of his property. In fact, so full of promise is the aggressive cultivation of modernization that specialist-groups have been formed and are in process of formation, for the purpose of surveying properties, planning, arranging and financing the modernization of investment properties.

If anything is modernizable at all in a very critical tenant-market, it is because architects have demonstrated a gravitational tendency to a more skillful utilization of space. The profit-motive may be the circuit-breaker, but the circuit cannot be closed without the architect.

TYPES OF MODERNIZATION

TO INCREASE rentability; to increase rentals; to increase marketability: these are recognized as the mainsprings of worthwhile modernizing works, and all forms of modernization need additional financing.

Types of modernization and the financing involved may be: 1. The modernization of *expediency:* generally new equipment, or improvements in equipment, in response to the trend of local competition. This does not involve financing beyond the owner's good name on a series of notes, subject perhaps to a chattel mortgage.

2. *Opportunistic* modernization: undertaken because of current low costs, to be ready for tenants at the turn for the better. This requires more of faith than cash. But the latter is not forthcoming unless the location can show a homogeneity of use and occupancy, or a definite beneficial trend change in occupancy. Cooperative financing is usually required, and where a property is held subject to one mortgage only, or has been liquidated past subordinate equities, the holder of the first mortgage is the most logical source for supplementary financing. If an institution, it will loan 50 per cent or more of the cost of this type of modernization. At times a "modernization-and-completion" loan is made as a purchase-money mortgage, based on expected long-time income improvement.

3. *Anticipatory* modernization: undertaken *without* local precedent but based on a conviction that a broader tenant-market can be tapped. This is a talent peculiar to astute, experienced ownership. The financial institution will be especially cautious, for it must be conservative.

Supplementary financing will be coy, but it can and should exercise a policing power to restrain the recombing of standing buildings for more pennies. Especially in this third subdivision, the credit institution qualifies. It says which are in its judgment fit for useful inflation by studying location, layout, design, utility and efficiency.

4. Modernization by *conversion: with* local precedent. Due to a change in neighborhood polarity: where occupancy changes from residential into business, or wholesale into retail, or big apartments into small, are well marked. The rewards of sub-pioneer enterprise may be just as good as those of the original ventures.

5. *Supplementary* modernization: new floors, floor coverings, paving; new lighting fixtures, paint, hardware, and other touch-up works. Also more economical heating plants. Like the first subdivision (which involved equipment) this needs no supplementary financing beyond a time arrangement with the makers, installers or contractors. The goal is usually to hold on to tenants, without increasing rentals. The cost of the improvements should be payable out of current income.

FINANCIAL ANALYSIS

THE subdivisions of the works of modernization that depend upon cooperative financing for realization are subject, as mentioned before, to the policing power of credit: The experienced lending institution looks at the city as a unit, divides it into north, south, east and west sectors; subdivides it, progressively, into neighborhood, block and individual building. The lending institution considers:

The sector: because, during the last boom, certain sections were bought and sold more enthusiastically than others, the mortgage structure is ramified into the third and fourth degrees. Modernization finance is not forthcoming unless a building is held subject to one mortgage only. Unless owners are ready to pay off intervening mortgages, no cooperative financing is possible.

The block: because, city planning being what it is, not all blocks show a complementary homogeneity of use. A brownstone front close to a factory front cannot have good residential possibilities, and is doubtful for business.

The building: because it may have a poor exterior and an adaptable plan, or vice versa; because architectural skill is the only skill that can surmount either of the difficulties.

As we have seen, owners may be willing, architects skillful, and yet find a hypercautious money market. Financing for the specific purposes of modernization is not at all organized. There are no money dealers who make a specialty of such loans. The accustomed sources of finance are not always responsive.

The banks: Limited to 60 per cent of their total assets for real estate investments. This budget is pretty well strained by the number of properties on their hands as a result of foreclosure. Consequently, also, the amount of modernization that can be expected today as a by-product of foreclosure is, in their case, small. They are usually satisfied with the "as is" condition of the property.

They may, however, in common with insurance and title companies, make very attractive offers to responsible persons who will agree to take over property subject to their mortgage and modernize to an extent agreed upon. Behind the recent agitation for slum clearance — an unsavory term for *wholesale modernization* — is the red ink ledger of many a lending institution wherein such properties are listed as a result of unwitting adventures in lethargy and legal toxicology.

Materials Manufacturers: Modernization is being sloganized into the American consciousness. Partly as a stop-gap outlet for manufacturers' products, partly as a solution to the problem of unemployment — wholly, as an attempt to organize an important branch of building enterprise which has been rather casual in the past.

The great "enabler" is, of course, installment financing. "Go Modern — Pay As You Go," describes the process fully. Here, the bank discounts, the manufacturer's credit unit deals directly with the owner, turns the notes over. The maximum time for the usual kinds of equipment and fixture modernization is two years, paid back monthly.

Where new materials and equipment are part of the structural modernization of an investment building, a plan has been worked out for group-financing by manufacturers and distributors whose products are used in the operation. About 70 or 80 per cent of the cost is loaned to the owner for three years, subject to a first mortgage. The loan is paid back monthly out of earnings and economies, with 6 per cent interest. A fee of about 9 per cent covers architects' fees, service and survey charges, and other preliminary items.

FACTORS AND FORCES

THE manufacturers feel aggrieved: they know full well that without aggressive cooperation, the modernization market will remain a sleeping giant. They feel that a point will be reached soon when savings banks, building and loans, insurance companies and others will wake up to the fact that property does not "come back" unaided. That the sitting-back policy of mortgage interests, because they must keep in a liquid condition is, in these times, a mistake. Their desire for keeping liquid has not kept them so. Here, it is true, is a dilemma: whether to hold the bag, or bag the profits?

The accusation goes further and claims that it

does not help the balance sheet if lenders amass a portfolio of properties by taking over, even if they are self-sustaining. If modernization is necessary today its deferment may build up a cumulative deficit which will be a menace to future operating expenses and returns, when business gets better. . . . Suppose, then, the lender modernizes, holds the property, pays taxes, stands the interest moratorium until better times? The costs of modernization are so extremely moderate just now that it may be possible to hedge the carrying losses somewhat. Subordinate, for a time, the written law of pay-off to the unwritten law of emergency first aid.

Dealers' Associations, Contractors' Associations: Little has come to our notice that would indicate that these associations have been able to attack the problem of work-maintenance in mass formation. The arguments have been sound and numerous: getting under way is conditioned by the hazards of flat pocket-books within, and hostility or indifference without, especially towards proposals for a separate bank for the building industry. An unfortunate discovery was made in a government survey of building trades associations: they were chiefly social "get-together" organizations, with very little activity in market study and research.

Local dealers and contractors: Together with the professions and labor, they stand to benefit from the modernization drives. The technique, and the need, of promoting local modernization is contained in a "Tentative Manual for Conducting a Local Modernizing Campaign," prepared by the Committee on Reconditioning, Remodeling and Modernizing. The total amount reported to have been pledged (as of August last) in 65 cities all over the country for modernization came to $48,577,620.*

The experience of each of these cities demonstrates that no sounder program to create employment has been offered than modernization. About 75 cents of every dollar spent for residential modernization goes to labor in field and shop. It has been estimated that a rundown property bought today for $3,000, improved and modernized for $1,000 more, will be worth $6,000 eventually.

There is more to it than this simple arithmetic. The owner's "I want, and will pay," should be restated objectively as, "I need, and my property can afford." Else the promotion of modernization stands in danger of becoming a dance of death of private ownership. A proper way is to derive the modernizing budget from an evaluation of the property. Say it is a private home, worth $6,000. A survey indicates it will take $3,500 to make it marketable. If, as a capitalization of rent or its equivalent, it is found that the house can stand a total market value of only $7,500, then the sum available for modernizing is $1,500 maximum; if the marketable value might be $6,500, and the value found is $6,000, then $500 is available for safe modernization. This is the way one manufacturer's finance unit has worked it out.

Commercial credit arrangements for the purpose of financing modernization can be safely extended by dealers and contractors, using ordinary business precautions, provided their activities are confined to the knowable conditions in their own cities. Much depends on the local bank situation. The knowable conditions may encourage the discounting of two-name paper by banks for modernization jobs. Notes in part payment for such work are given by the owner, who endorses them. The contractor (or the architect), exercising due caution, sub-endorses the notes, and they may be accepted for discount by the local bank.

Modernization "by mail": The archetype, Sears Roebuck; the procedure, like the manufacturers quoted above, but with longer terms of payback. Best organized to finance and handle modernization. Sales volume in 1931, ten million dollars.

Building and Loans: A "domestic" market. When an application for a modernization loan is received appraisers are sent out to look at the home. If the value of the property becomes greater through modernizing, loans are made accordingly. No difference between appraising for new or for modernizing loans: the value of the property is the primary consideration. The chief deterrent, as discovered by a survey, is location. Paybacks, on a monthly basis are used for modernizing loans as well as for original loans. When a loan is made for modernizing homes on which the lenders do not hold the first mortgage they assume it, pay it off, and then add the additional loan to the amount.

Building and loan institutions, then, superinduce modernization because they are willing to "enable" such work. Of special interest to architects is the fact that in recently studied modernizing jobs, 50 per cent of the owners enlarged their homes, requiring an architect's services; 28 per cent changed their larger homes into income producers; 33 per cent built garages.

APPRAISAL

THE appraisal of the effect of modernization upon value, especially of income properties, is difficult. Lending institutions are busy just now making adjustments in loans; part-calling them when abso

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* NOTE: My own estimate, based on 1922 valuations, is that if all buildings 10 or more years old were modernized, one year's work would attain to the astounding sum of $1,750,000,000. This is not adjusted to include fire and other property damage.

About $157,000,000 was spent in 1930 for alterations in office buildings reporting from 54 cities, large and small — no mean figure considering the situation in this space market. This is more than five times as much as women spent for face and skin creams in that year; a third as much as radio purchases; — nothing at all compared to the $2,800,000,000 spent with bootleggers and for home-brew ingredients.

lutely necessary; trying to avoid direct foreclosure as much as possible. To evaluate property which is about to go into another phase of income-productivity is a very delicate matter.

Certainly, an actual cost appraisal may be entirely different from one based on income. Which income, then? The present one may give too low a value; the boom one, too high, although the mortgage may have been based upon it. If space rents normally for $200, and rents today for $50, an appraisal based alone on the lower rental is unfair: normal times will bring more rent. The correct appraisal would be one that is based on a stabilized rent, determined according to standards of the American Institute of Real Estate Appraisers.

The fact that a building needs modernization does not make it a "prospect" probability. For instance, a lending institution holds a mortgage which defaulted. Inspection indicates that modernizing will salvage the property. The owners have no money. Shall the lending institution foreclose and make the alterations itself, or shall it increase the present mortgage to enable the owners to modernize? The difficulty lies in the uncertainty of outcome if the modernized property is not efficiently controlled by the owners, who may find it hard to maintain the property because of a depleted pocket-book.

LENDING: R.F.C.

THE entrance of the lending institution into active participation in modernization will be inevitable. The race is between expedient mark-timing and retail property inflation, as a matter of *market maintenance*, i.e., holding on to tenants and to income. The job immediately ahead is market maintenance, not market expansion.

Modernization as a by-product of foreclosure may be a very important source of work this year. To keep foreclosed properties on a "taxpayer" basis when they can be inflated into profit-makers and thus made more readily marketable will become a very uncomfortable stand to maintain.

Perhaps the Reconstruction Finance Corporation, which has "reconstructed" practically everything but the construction industry, will be induced to appropriate a sum for the rediscounting of notes arising out of specific, sponsored modernizing work. This would keep lending institutions in the liquid position to which they are all committed, without paralyzing the small works of an industry which is still in sore need of them.

PROFIT CONVERTS

THE realization that potential ground rent cannot be capitalized with profit in a non-expanding market has swung the emphasis from profit by sale, to a capitulant conversion of the buildings found, for the purpose of deriving a minimum economic rental income until, as they say, the "turn." These changes in investment emphasis will no doubt eventually bring about a flurry of action in modernizing work. The chief problem, the solution of which it is true is helped along by location, is to find a sum that, invested in modernization, will produce an income sufficient to write off that investment in a few years' time.

The cost accounting must be, for the time being, a record of a transaction between the left-hand and the right-hand pockets. The original capital structure can be deflated by separating, and "tabling," the cost of the property as *land* (far in excess of "building"). Charges should be only the closed items, such as taxes and interest on the participating equities. And for the purpose of computing "income" after modernization, the rate of capitalization (figured backwards from the new rent) should be sufficiently in excess of the general interest rate to include also a depreciation allowance.

The resale profit or increase in value, postponed but still in the picture, must always be sufficient to offset the carrying charges (of which taxes should be compounded, each year), whereas the cost of building reinvestment must be written off independently.

Physical depreciation and economic desuetude are the two forces that dominate in a non-expanding market. Reinvestment is the outstanding form of profitable activity — or, if not profitable, then "carrying" activity. And to be able to "carry" uphill in a downhill market is our new definition of successful real estate investment.

This conversion of plottage by speculation into improvements for investment is one of the major sources of an ever-increasing volume of sound, useful modernizing work.

THE ARCHITECT'S PART

THE architect's services for modernization should not be on a percentage basis, as in new construction. Here it seems to be a matter of being clever about the solution: One architect may study a project and develop a modernization program that will involve, say, $30,000; another architect, either more experienced or more market-conscious, may discover a solution that will cost but $5,000. If the lower-cost solution will relieve the immediate problem, that architect deserves a substantial fee for his more economical solution.

How is the architect to contact the needy owner and help him to solve his income difficulties? Digging up modernization projects "cold" is not recommended. The ideas may receive scant attention from the owner. Later, another architect may be employed to carry out similar work.

The architect who did not get the job is entitled to some remuneration, provided there is strong proof

that the architect who came to the owner "cold" submitted a modernization scheme which is similar to the one finally carried out by someone else.

Another way: Enough has been done by various manufacturers to the building industry to make people modernization conscious. The architect may incorporate himself and go after such business by "selling" modernization, too. He might *advertise; consult with prospects; study the properties; make proposals; submit sketch plans; estimates; study probable effects upon income;* and if the results are favorable and satisfactory to the owner, the conditional contract for services becomes a bill of sale for work, materials — and a new lease of life for a depreciated or obsolescent property.

The architect should watch the announcements of foreclosures and follow them up. Many of these properties, liquidated past the several and collective junior equities, offer ripe opportunities for modernization, with financing assured at the hands of the institution taking over.

RETAIL MODERNIZING

THE uncertainties of the building market in general today will tend to confine the typical modernization project to certain kinds of properties, in certain locations.

As a matter of fact, the mortgage situation should be the first to be investigated. If that is good, then the work of modernization may be financed by a manufacturer's outlet, by the holder of the first mortgage, or by corporations formed for the express purpose of financing and executing modernization operations.

A typical case of "retail" modernization: Found, average five-story brownstone building, about 50 x 100, containing 20 families. No heat; toilets off kitchens; coal ranges; 4 and 5 room apartments; 75 per cent vacant. Problem, to do adequate modernization — no more, no less. Solution (for the location), enlarged toilets to accommodate bathtubs; installed central heat and hot water supply; redecorated. Result, rents increased from $18 for 4 rooms to $36 and $38 a month. The increased rentals will pay for the cost of this modernization in five years.

Retail modernization is a difficult job to sell, because each one must be sold to a private individual. Wholesale modernization — the modernization of entire communities within our cities — needs less of selling and more of educating. For the customer is — the public-at-large.

FUTURE CONTROL?

IT IS the manifest destiny of the building industry, in common with others, to work out consumer relations that will keep it in flexible communion with market demands. Here and there the effort to put the industry on a stabilized plane is becoming evident. The American Construction Council (formed in 1922 — our *last* depression); the Construction League (1931); the Cleveland Plan for market study (1932); others, less noteworthy, will in time put a control upon building activities that will guarantee its professionals, its workers, its skilled trades against vacuum periods of wasteful inaction.

Who knows but that the three-day work week now developed as an emergency employment stopgap may not in the end be the work period that will be sufficient, under a broad national plan of work rotation, to keep us going profitably and successfully?

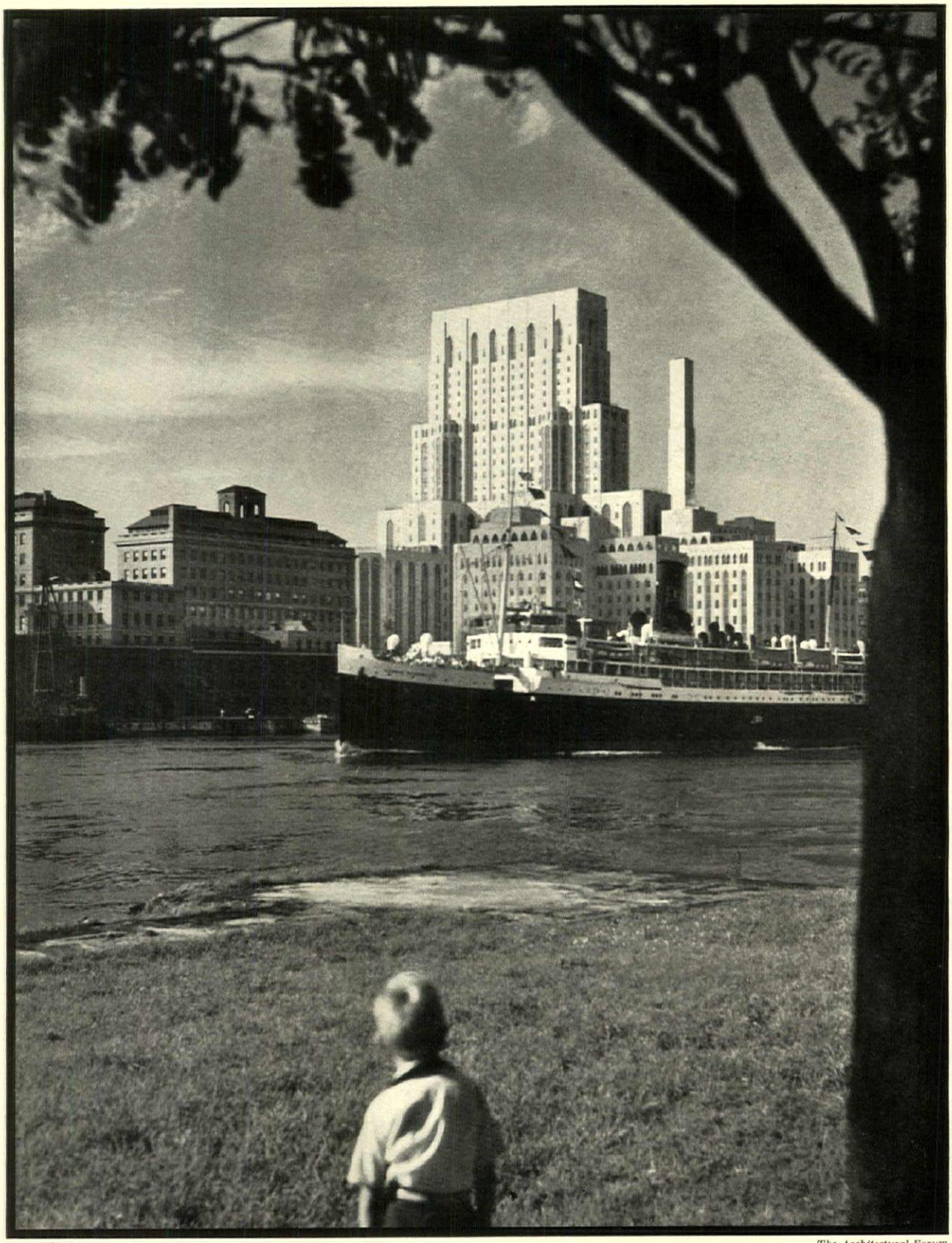
If the manifest destiny were realizable today, almost two billion dollars' worth of modernizing alone would be available. A third of that would go into works which would require the architect's services; the other two-thirds would employ labor to the extent that about 60 per cent would go to it to be converted into purchasing power. . . .

Only wholesale revaluation can lead to reinvestment in wholesale modernization. For housing, read *re*housing. . . .

If the manifest destiny were realizable today, national surveys would be mapped out to plan work for a beginning period of twenty years. It would mean the loosening up of tight areas, the demolition without replacement of buildings ancient and beyond repair, to make way for other land uses and for sunlight and air. It would mean the laying out of new streets, parks, waterways. For the uses of simple leisure, we need canals along with our concrete motor highways. . . . This may be utopian: but our life today, with its physical conveniences and comforts is, compared to the life of even 50 years ago, utopian. It does not necessarily condemn the picture. And as for the benefits of foreknown employment programs, there are here and there among the industries producing or converting consumer goods, living examples enough to encourage one to speculate upon the ultimate good for the many that assured employment will bring about.

Today, there is only one statistic: Lost, a nation of 20,000,000 people, disfranchised from exchanging their work-wealth for food, shelter, clothing and other necessities and amenities of life. The building industry's army of 2,000,000, at work, could step up the employment coefficient of these others. . . . A necessary part of the process of liquidating the mistakes of the past is for us to go ahead with works that will compete with the mistakes and lay the foundations of the good works of the future.

There is no other way. This is a time of transition: and the works of transition are some of them fallacious; some of them useless; some of them mistakes. Let us accept the depression and work our way out of the fallacious, the useless, the mistaken.



Sigurd Fischer *The Architectural Forum*

THE NEW YORK HOSPITAL

COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS

THE

ARCHITECTURAL

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THE PRINCIPLES OF PLANNING

THE NEW YORK HOSPITAL—CORNELL MEDICAL COLLEGE BUILDINGS

G. CANBY ROBINSON, M.D., *Director*

THE New York Hospital was chartered in 1771 in the reign of George III and since 1791 has rendered conspicuous service in the care of the sick and injured. It has always appreciated its opportunities and obligations to medical education and in the advancement of medical knowledge. Since 1913 it has cooperated formally with the Cornell Medical College in the teaching of medicine, and in 1927 the two institutions formed a perpetual association. The New York Hospital committed itself to the operation of a new hospital on a university basis, sharing with Cornell University the responsibility of carrying forward its work in medical education, research and medical service. The hospital therefore was planned to meet adequately the demands of leading workers in the various fields of medical science.

Suitable provision was to be made for a student body of approximately 300 regular medical students in the hospital as well as in the preclinical laboratories, with lecture and demonstration rooms for large groups and accommodations for the work of small groups or individual students. Facilities were required for advanced students and for the research activities of the teaching and hospital staffs. It was essential to consider the hospital in the same spirit in regard to research and education as the laboratories of the medical college, but always keeping in mind the patients and all the services required for their study and treatment, such as the nursing service, the various diagnostic facilities, the operating rooms and transportation. The plant had to include facilities for the School of Nursing of the hospital, as well as a large and attractive residence for nurses. A complex service structure was required by the central power plant, the laundry service, repair shops, housing for employes, parking of automobiles and many other services.

It was necessary to adopt definite policies based on a conception of the future activities and objectives before intelligent planning could be undertaken, and before advice regarding details could be utilized. It seemed particularly fortunate that the architect and the director of the association had been co-workers on a similar, although simpler, project. After the general conceptions had been formulated, much was contributed by the builders, whose experience was invaluable, as well as by experts in hospital matters and by those who were to operate various parts of the plant.

The process of planning was begun by an analysis of the project into the component parts needed for

its various functions, a study of the requirements of each part separately, and then a synthesis of them into a united and coordinated structure. These component parts were: (1) those forming the hospital proper, providing facilities for patients and united by several services common to all; (2) those comprising the laboratories of the medical college; (3) those which are accessory to the hospital or to both hospital and college. It was decided to endeavor to make each unit of the medical college and of the hospital as far as possible an independent and self-contained entity, but to combine the units so as to form a common meeting ground for mutual interests where cooperation seemed especially desirable.

In order to work out this scheme, detailed thought was given not only to the relation of the future activities of the various divisions of the plant, but also to the limited ground area available and the costliness of land. The early plan and that finally evolved are shown herewith. The locations determined for the various divisions may be seen on the isometric diagrams.

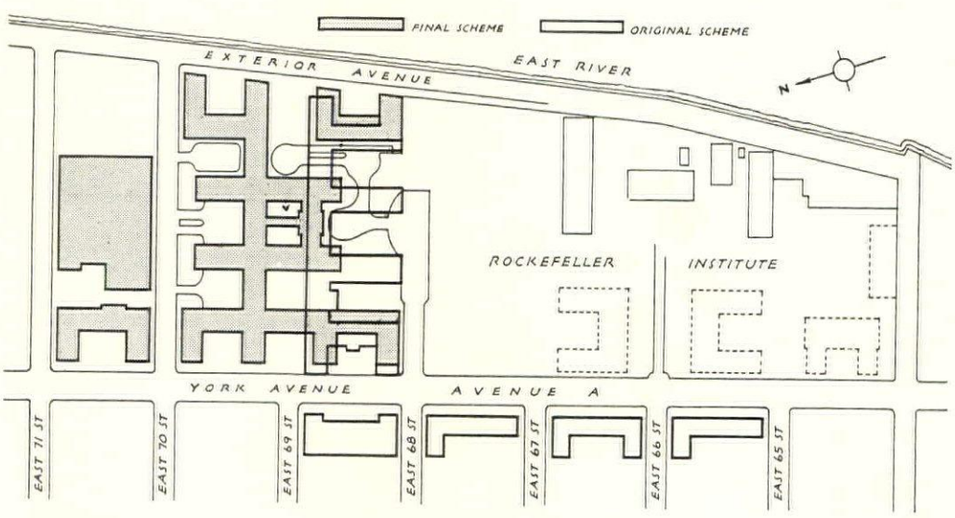
It was decided that the western end of the available space along York Avenue should be occupied by the buildings of the Medical College and by the School of Nursing in order to retain the view and openness of the East River for the patients.

The contemplated organization of the hospital required the provisions of five main clinical divisions for medicine, surgery, obstetrics, pediatrics and psychiatry, and facilities with them for the special branches of each field of medicine which were to be developed. The same principle of creating clinical institutes was carried out as in the planning of the laboratory departments. The special requirements of each type of medical practice, of clinical and experimental research or of teaching were studied and the best plan of coordinating the different services with each other and with the central facilities was sought. Provision for the care and comfort of public and private bed patients and for out-patients was given first consideration, but in each division research facilities, offices for the full-time staff, lecture and conference rooms and working space for students were also provided.

A study was made of various university hospitals and an attempt was made to meet the deficiencies that many of these hospitals experience from the standpoint of clinical teaching requirements. The number of beds provided in each main division was also determined by the various special fields to be included, the calculated costs of operation and in some instances the obligations of the hospital for public service and stipulations of donors. When the size of each clinic was finally decided, the number of beds totaled slightly over one thousand. With this figure as a basis, experience was sought and calculations were made to determine the provisions necessary to conduct a hospital of this size. The facilities provided for the food service, the nursing service, housing of the resident staff, and diagnostic laboratories and mechanical plant had to be constantly checked to determine if their operative requirements were adjusted to the medical services.

In determining the design of the buildings it was believed that an atmosphere produced by a careful consideration of æsthetic values would in no small measure favor the right environment for the best care of patients, the education of medical students and the maintenance of a high level of scientific, humanitarian and spiritual endeavor.

The success that has been achieved in producing not only a beautiful building but also appropriate and harmonious effects within will be in no small measure responsible for the realization of the hopes and aspirations of those who have made this development possible.



The gray block indicates the final form of the plan for the buildings as constructed. The dark outlined blocks indicate the buildings as first planned before the property to the north of the original site was acquired. The elimination of the street running through the property made possible the unified plan



ographs by Sigurd Fischer

THE DESIGNING PROCEDURE

OF COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS OF THE NEW YORK HOSPITAL—CORNELL MEDICAL COLLEGE BUILDINGS

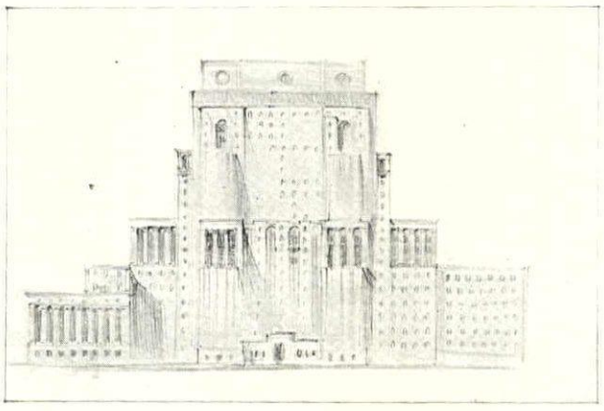
THE architectural studies for the design of the New York Hospital were evolved over a period of years and literally thousands of sketches and drawings were made. The first sketches for the New York Hospital, made in 1926, covered only the block from 68th to 69th Streets. This early plan, although for a much smaller institution, contained the essential scheme of the final plans which, during three years' study, were developed from it. More land was needed, however, for an expanded program, and on the advice of the architects the trustees acquired the two blocks to the north and the frontage across York Avenue to the west. On this basis new sketches were developed after the comprehensive program was established.

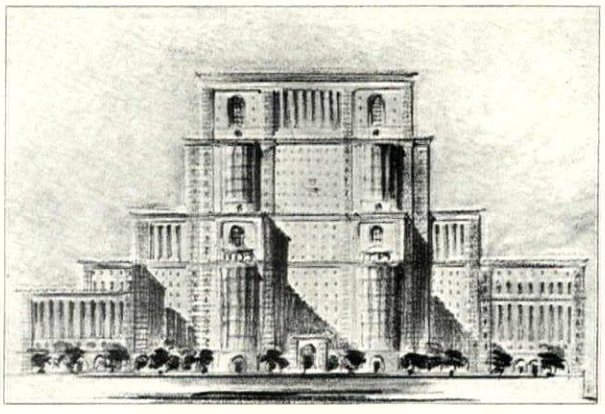
THE PROGRAM. The program finally adopted included the following number of beds for the hospital:

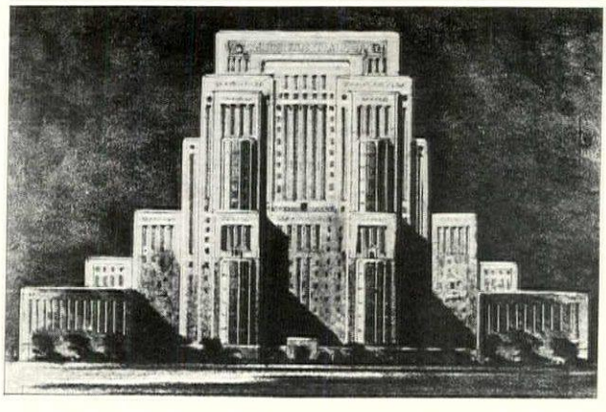
Medicine, including specialties	161
Surgery, including specialties	291
Woman's clinic, including private patients	170
Children's clinic	133
Psychiatry	111
Private pavilion	106
Accident and admitting wards	15
Total	987

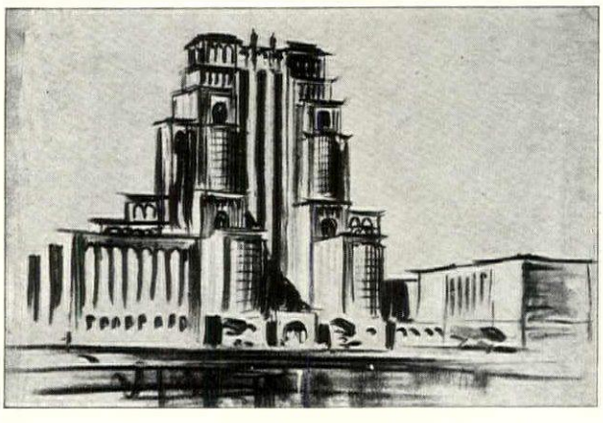
The program also called for an out-patient department to take care of approximately 1,000 patients each day.

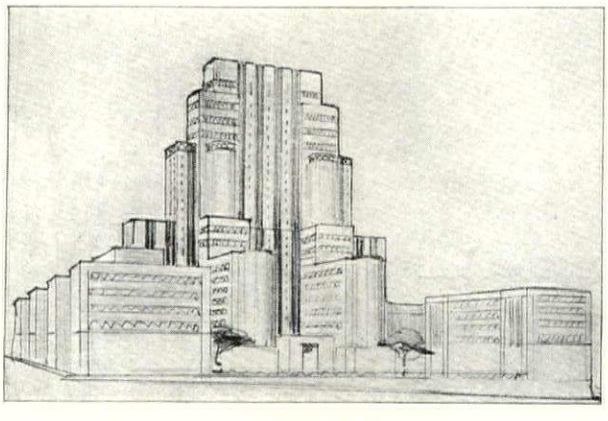
To fulfill its duties as a teaching hospital, generous space was to be provided for clinical laboratories and special services, such as metabolic units, heart stations, etc., in close proximity to the wards. Such a program necessarily included adequate space for

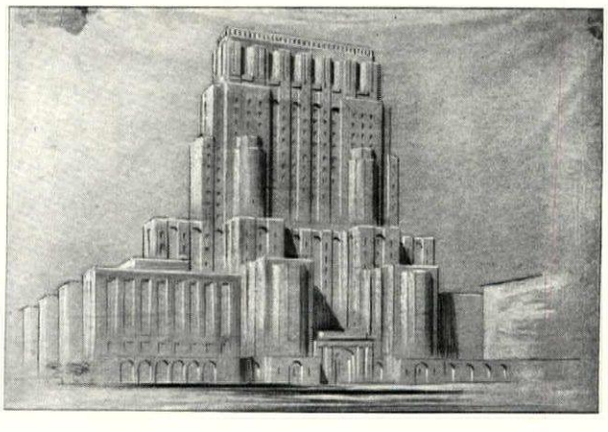












A series of preliminary studies of the exterior design. Directly above, "Italian Palace" sketch. Above, left, very early sketch by Henry R. Shepley. Reading down and across the bottom, "Graybar" sketch, "Swiss Chalet," "Chrysler" type, the "Piranesi," the "Richardson," "Avignon" (the last being very similar to the final design)

X-ray, hydro- and physiotherapy, dietotherapy, and centrally located social service.

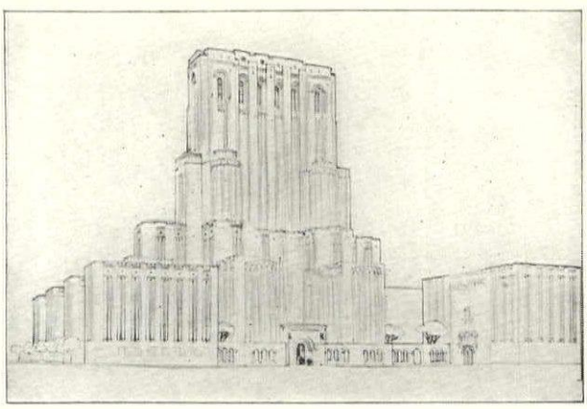
A nursing school and residence for 500 nurses had to be included as well as a staff house for about 114 doctors. The power house unit, including boilers, dynamos, refrigerating plant, laundry, shops, garage, etc., had to be carefully planned to satisfy the exacting demands.

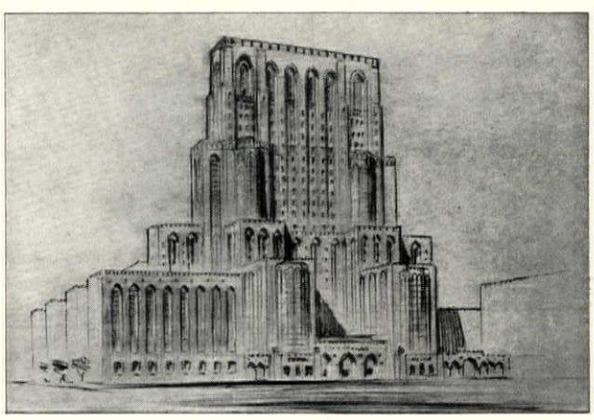
PLAN STUDY. During the planning very little consideration could be given to exterior appearance and treatment. Only rightness of plan, orientation of parts and masses were studied. From this emerged a mass, the proportions of which could be but slightly altered without causing the plan to suffer.

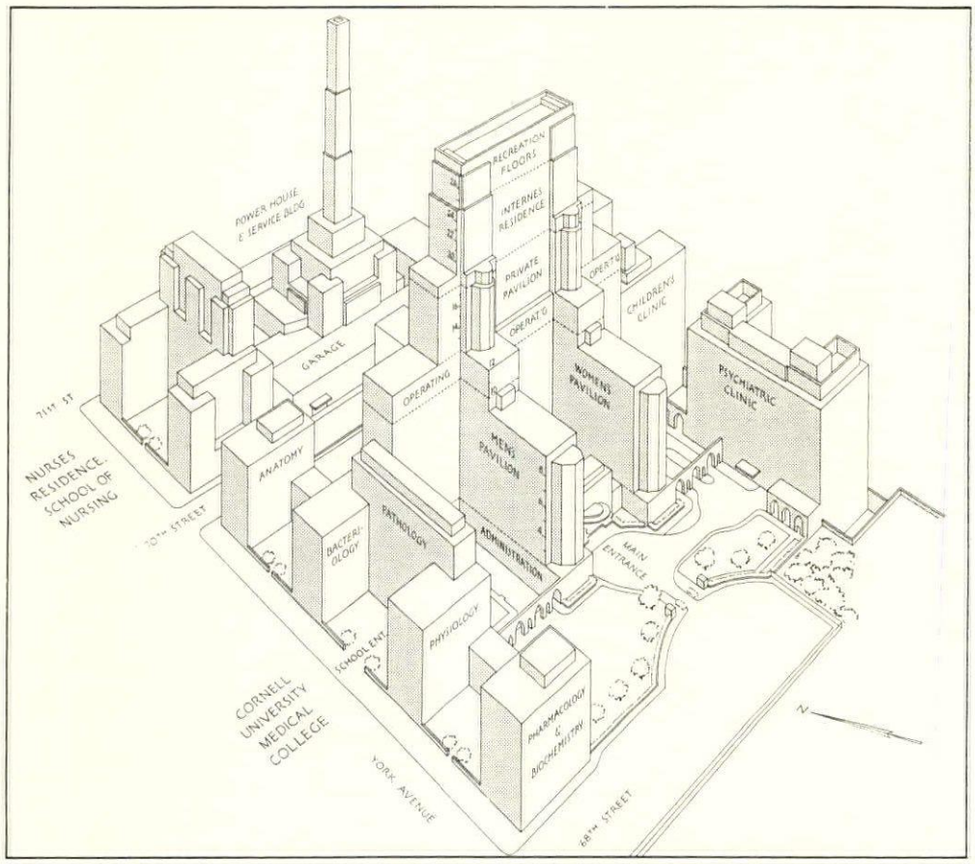
The Main Hospital was in every case considered first; then its relation to the Medical College on the west and to the special hospitals on the east; and last, its relation to the group on the block north of



The main entrance to the hospital from across the forecourt. One of the wings is shown with its vertical window motif and with the solaria of glass and steel







An isometric drawing of the hospital looking from the southwest, showing the mass and the disposition of the various divisions and subdivisions of the hospital, Medical College, Nurses' Home and Service Buildings

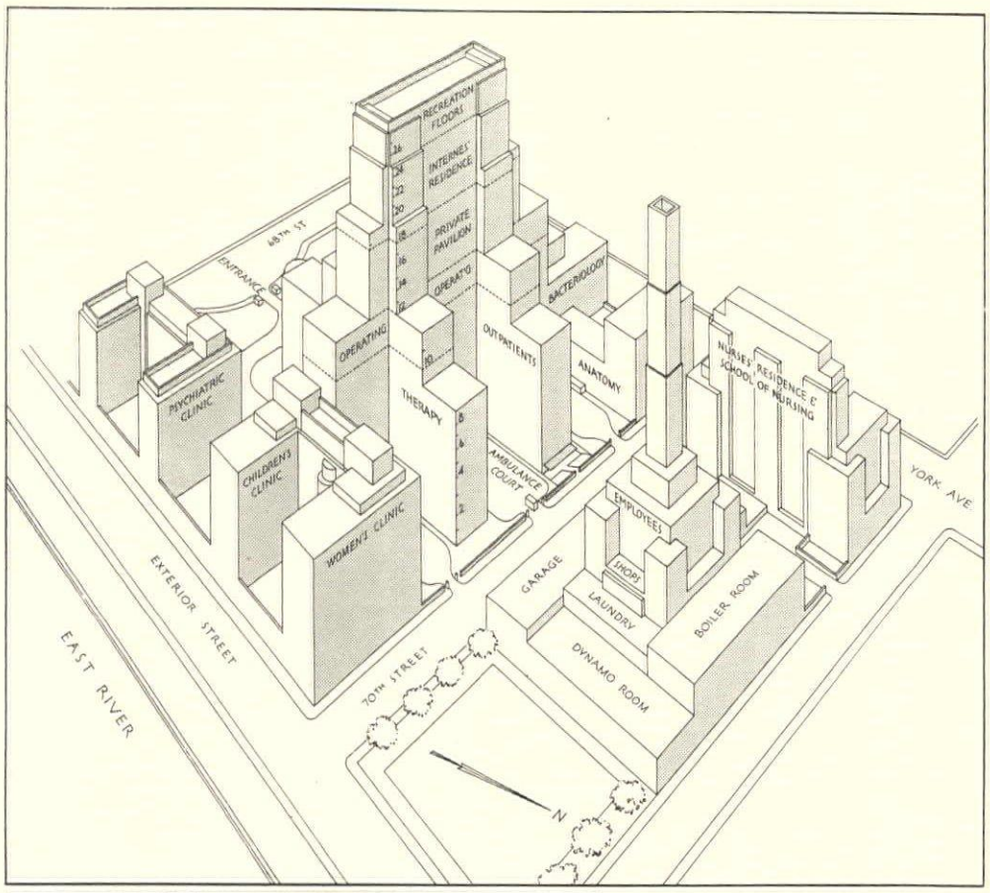


The hospital from York Avenue, showing the Physiology Building of the Cornell University Medical College in the foreground, and the Main Hospital

70th Street. In attacking the Main Hospital, approximate areas of the various divisions or departments were first ascertained, and the most favorable relationship of these divisions, both horizontal and vertical, was carefully studied before any detailed work on the subdivision was undertaken. As a matter of fact, the space requirements and details of the different departments of a teaching hospital were so well known both to the architects and to Dr. Robinson that they could be assumed. The study of the arrangement of these subdivisions was carried on in block form by plans and models, having in mind only the convenience of their relation to one another and their orientation, i.e., whether a particular division needed sun, north light, river view, etc.

No adequate solution could be reached on the three individual city blocks available, but the acquisition and closing of 69th Street made possible the unified plan finally adopted.

The Main Hospital is arranged as in the original conception, in a long building running east and west



An isometric drawing of the hospital looking from the northeast, showing the power house and service buildings in the foreground and the disposition of the various divisions and subdivisions of the group



Looking down East 69th Street toward the main entrance of the Medical College, showing the window treatment and the mass-silhouette from the west

in the center of the lot, with the two ward wings extending toward the south and the three special hospitals, Psychiatry, Pediatrics, and the Woman's Clinic, on the east side of the lot overlooking the river, with the Medical College on the west.

The fact that the Main Hospital was near the center of the lot proved a most important factor in that it removed the restriction on height. It became possible, instead of planning the private pavilion as a separate building, to place it on top of the Main Hospital and provide a special bank of elevators to serve its six floors from a special private entrance on the first floor on the south side.

The staff house, which had caused the greatest difficulty up to that time, was disposed of by placing it over the private pavilion from the 18th to the 23rd floors. Its integrity at the same time is carefully maintained, the staff dining rooms, lounges, and common room being placed on its lowest floor, the 18th, and recreation facilities, such as squash courts, billiard room, hand ball courts, etc., on the highest floors.

Another plan problem solved by closing 69th Street was that of the out-patient department. It was possible to make a separate wing for the out-patient department extending north from the Main Hospital. This proved in many ways to be an almost ideal arrangement as it made it possible to maintain the integrity of the out-patient department and yet allow access from it to the clinical laboratories and wards on every floor. Further advantage of this feature was taken by arranging in the out-patient department on each floor, the type of service corresponding to the ward service in the hospital on that floor.

With the activities of the out-patient department, and those others that were taken care of in the Therapy Wing, removed from the basement and sub-basement of the main hospital, it became possible to handle adequately the four great services which properly belong in the basement; namely, food service, storage, employes and records.

When the plan and the mass were fairly well crystallized, the structural and mechanical requirements were explored and architectural treatments were studied which would fit in with and not militate against the fixed requirements, that is, the structural, mechanical and planning necessities.

EXTERIOR DESIGN. Some of the character sketches reproduced here are indicative of the different treatments considered for the same mass at different times in the study. Many studies were made to determine the character of the architectural treatment, keeping in mind the particular limitations of plan and equipment, and also the fact that the building should last more than one hundred years.

The selection of the brick was an item of more than ordinary importance as the view from so many windows in the building would be toward other parts of the building itself. A light gray mixture was finally selected, using four well-known shades of the same brick. The combination gives lightness with a sufficient variety to be agreeable upon close examination and to blend very well with the limestone.

COLOR CHART FOR PRIVATE PATIENT ROOMS

SCHEME	A	B	C	D	E	F
WALLS	Light Gray-Blue	Light Gray-Green	Green	Tan	Linen Color A	Lemon Yellow
CURTAINS & CHAIR COVERING	Plain Pink edged with White Tape	Fig Tan edged with Red Tape	Plain Yellow Red & White Egyptian Border	Fig Brown edged with White Tape	Fig Green edged with Yellow Tape	White with Red & White Egyptian Border
FURNITURE	Stained Wood	Stained Wood	Stained Wood	Paint Dark Green	Paint	Paint
RUG	Henna	Henna	Gray Green	Henna	Gray Green	Gray Green
LOCATION (FLOOR)	15	13	17	16	12	14

INTERIOR DESIGN. In designing the interior, the problem of the architectural character of the main entrance lobby was perhaps the most interesting. The architects, with the director, finally wrote out the following program for the lobby:

1. The main lobby should not look like a hospital, hotel, apartment house, bank, chapel, art museum or ballroom. It should be the spirit of the exterior appearance of the building translated to interior architecture.

2. The average person should walk through it without noticing it, but the cultured person should be arrested by its beauty. (This latter requirement was invented by the director and caused the architects considerable uneasiness.)

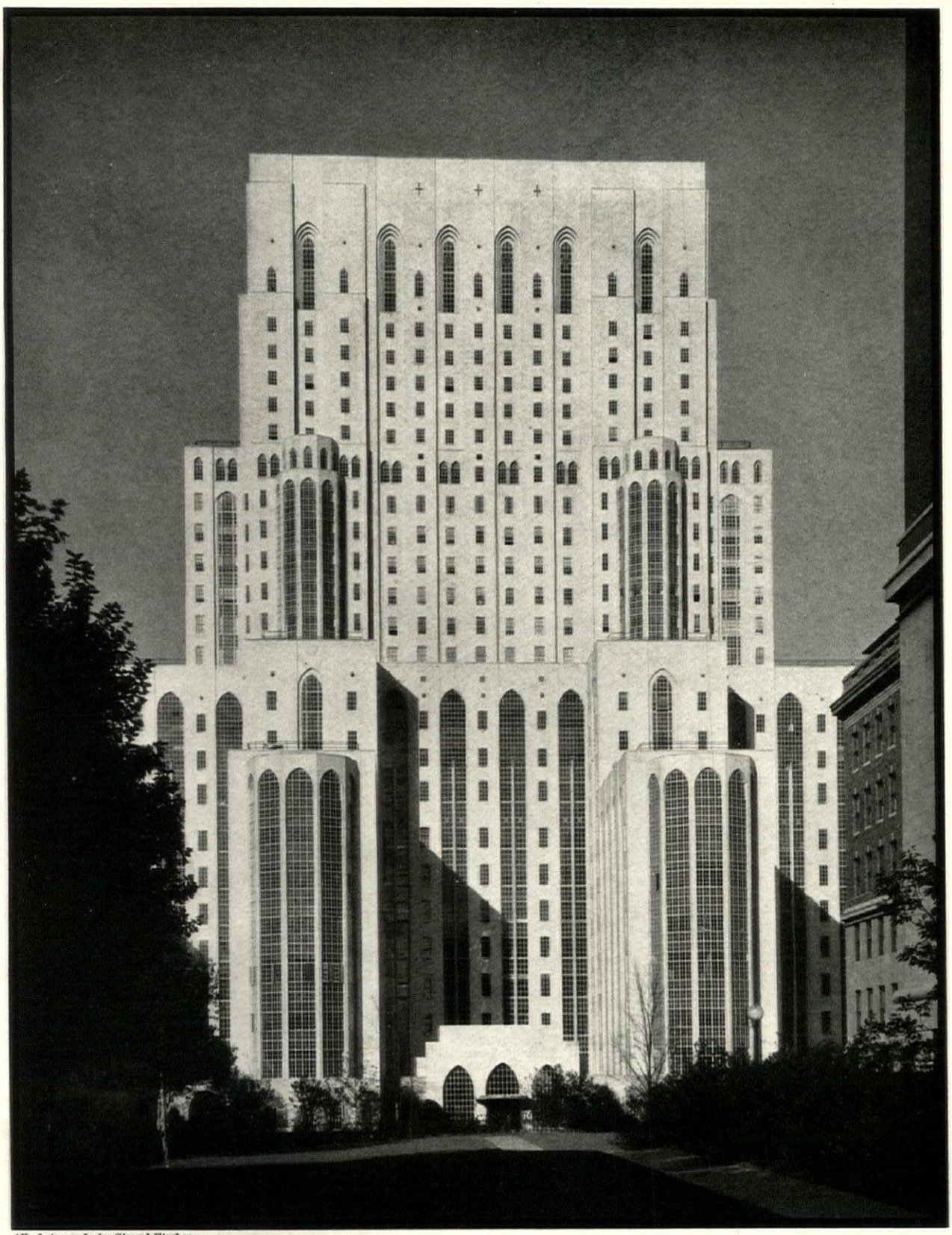
The features of the lobby are the very deep revealed arches with the windows completely filling them and extending to and tying in with the colored marble floor.

It was determined early in the planning of the New York Hospital that the central building was so large that special effort should be made to make it easy for the occupants to find their way from one part of the building to another and to reorient themselves when they became lost. To accomplish this a feature was made of points where one corridor crosses another. The steel columns of the building were so arranged that the corridors which are normally 8 ft. wide could be increased at the crossing to 10 ft. The ceilings are paneled and provided with special corridor crossing lights with square sides to take directional signs.

Further than that, each wing of the building is treated, as far as possible, as a self-contained unit. Each has its own letter before the number on the doors; its own elevators and stairways and, in addition, its own distinctive corridor floor pattern. Twelve distinctive floor patterns in all were worked out, and each vertical section of the building between corridor crossings has its pattern.

The horizontal divisions are indicated by colors. The medical floors, being the second, third and fourth, are laid in two shades of gray tile; the surgical floors, being the fifth, sixth, seventh, eighth and ninth, are laid in two shades of green; the operating floors in blue, and the Medical College in red.

The architects were fortunate in having as the builders Marc Eidlitz & Son, Inc., whose store of experience and knowledge was of the greatest value throughout the progress of the work. Dr. Winford H. Smith rendered valuable service in his capacity as consultant on the details of the planning.

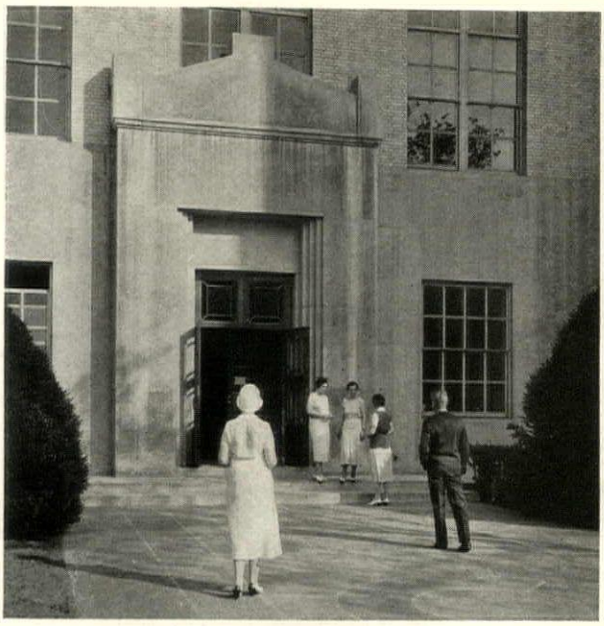


All photographs by Sigurd Fischer

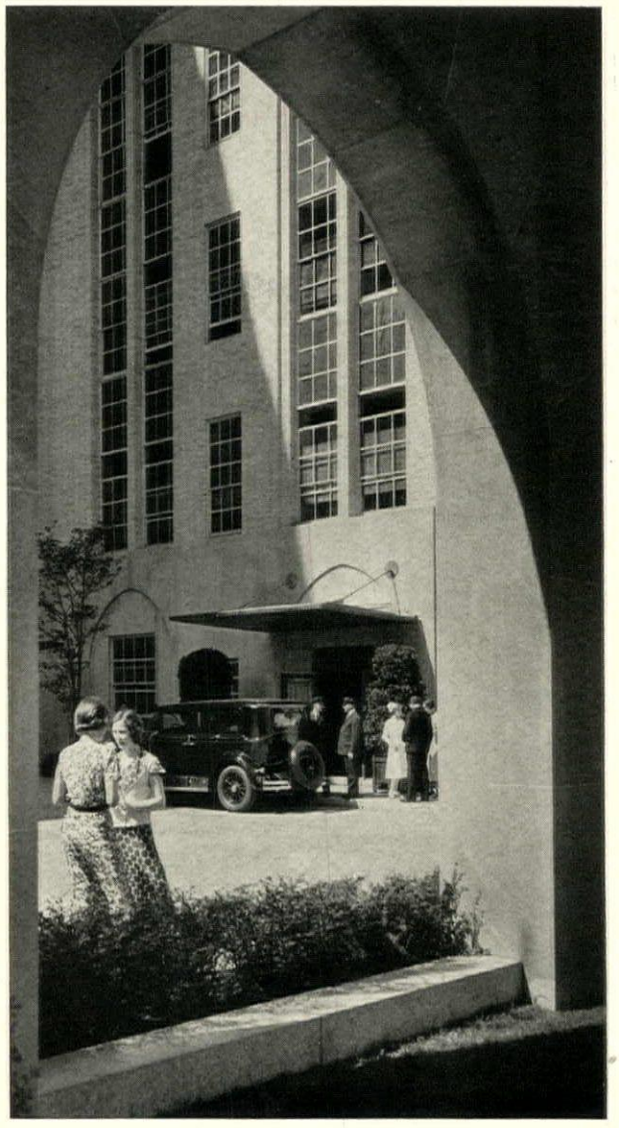
THE NEW YORK HOSPITAL

COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS









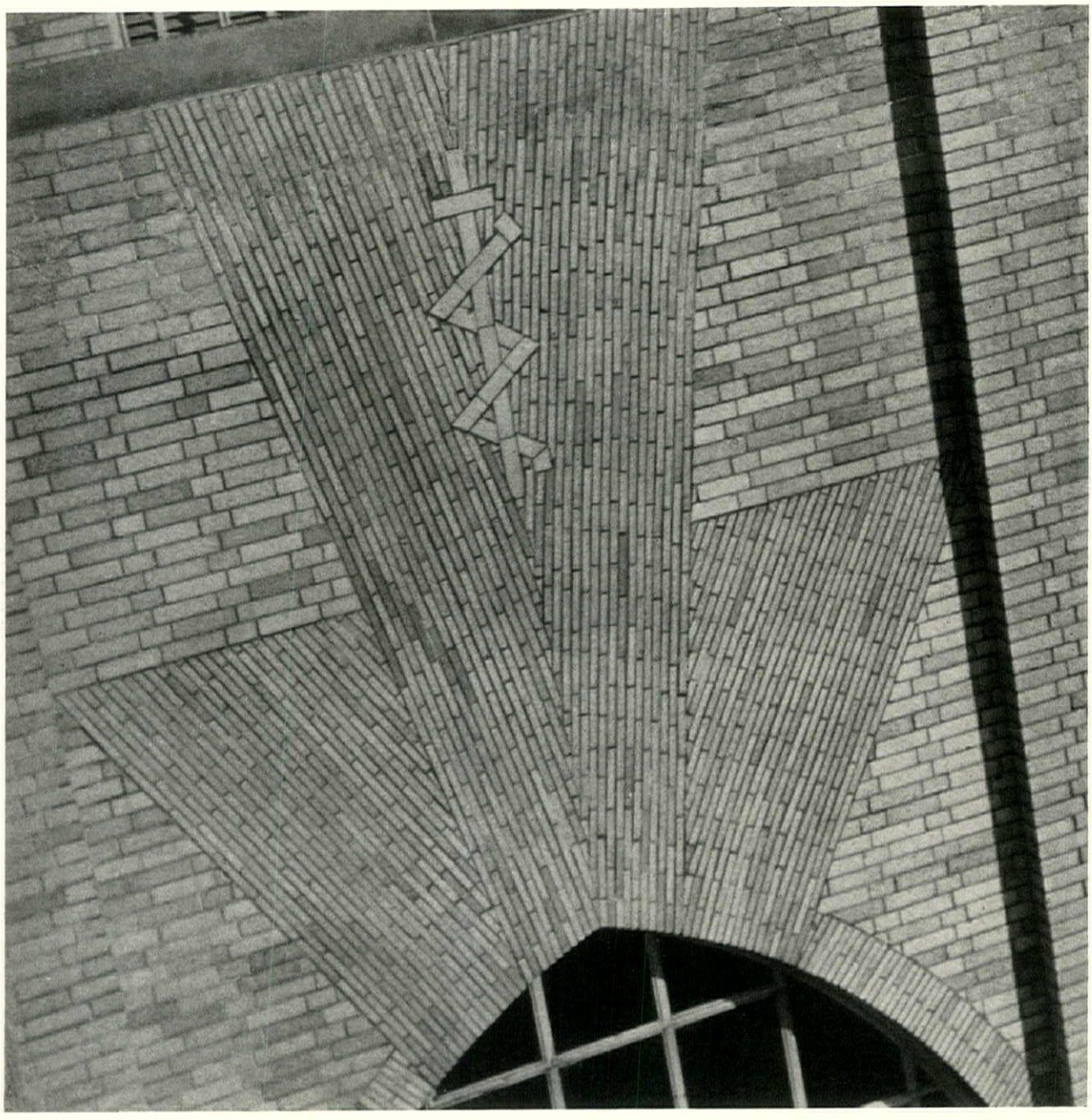
THE NEW YORK HOSPITAL
COOLIDGE, SHEPLEY, BULFINCH & ABBOTT
ARCHITECTS

Entrance to Cornell Medical College (above) in which limestone is used for the first story and doorway, mahogany for the door, stainless steel for the door muntins, and the window sash are stock steel painted limestone in color

Main entrance to New York Hospital (above right) which has pink Tennessee marble walls. The marquee is of leaded copper, the soffit being painted red and gray. The cobblestone is laid in the typical radial French manner

Private patients' entrance (right) looking from the arcade between the Psychiatry Building and Children's Clinic

(Opposite.) Looking toward the main entrance to the hospital from the porte cochere of the Psychiatry Building, showing a portion of the solarium and a ward wing beyond. The design of the fenestration is of particular interest





The nine-foot "keystone" of the pointed arches of the main vertical windows, which is executed in 1 in. brick. No grinding of the brick was necessary, since the jointing in the keystone and arch-work is parallel, producing interesting slightly sawtooth edges in the soffit of the arch

A roof terrace (left) overlooking the East River, showing the clear view for patients due to the "moat" design of the parapet



Arcade from sunken garden looking toward the Medical College

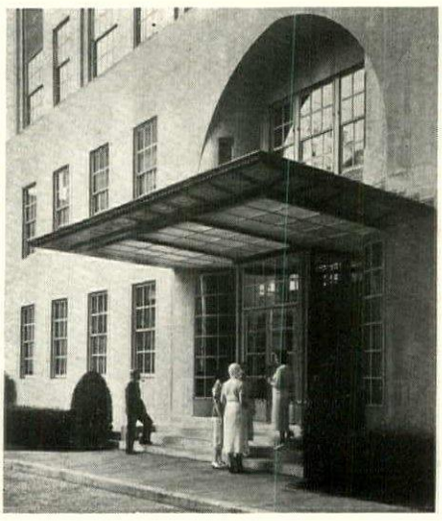
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In carrying out the requirement that the main lobby should be the "spirit of the exterior translated to interior architecture," the deep revealed arches filled completely with windows establish the motif. The rich coloring of the marble floors is enhanced by the abundance of light that streams through the windows, and is supplemented by the warm crab-orchard stone that forms the dado. The three windowless arches in the lobby are filled with inscriptions carved in crab-orchard stone

The entrance to the Woman's Clinic (below left) with its leaded copper and frosted glass marquee. Below right, the Woman's Clinic lobby, with dark red Formosa marble floor, verde antique border and Belgian black base. The pilasters are of pink buff Kasota with low hone finish. The walls and ceiling are of lime plaster with an uneven trowel finish; the window muntins, doors and other trim are of bronze






1771
NEW YORK
HOSPITAL
1877
NEW HOSPITAL
OPENED
BETWEEN WEST
FIFTEENTH AND
SIXTEENTH STS
1932
THIS HOSPITAL
COMPLETED
AND PATIENTS
ADMITTED ON
SEPTEMBER FIRST
PAYNE WHITNEY
BY HIS VISION AND GENEROSITY
MADE THIS STRUCTURE POSSIBLE



The Board Room, which has been designed in the spirit of the George III period, in honor of the sovereign who chartered the New York Hospital. It is boarded from floor to ceiling horizontally in old pine 10 in. to 20 in. wide, with fluted Corinthian pilasters. The uneven surfaces and luster of the old pine are retained by polishing with wax. The floor is of wide oak planks laid in a simple parquet pattern

THE NEW YORK HOSPITAL

COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS



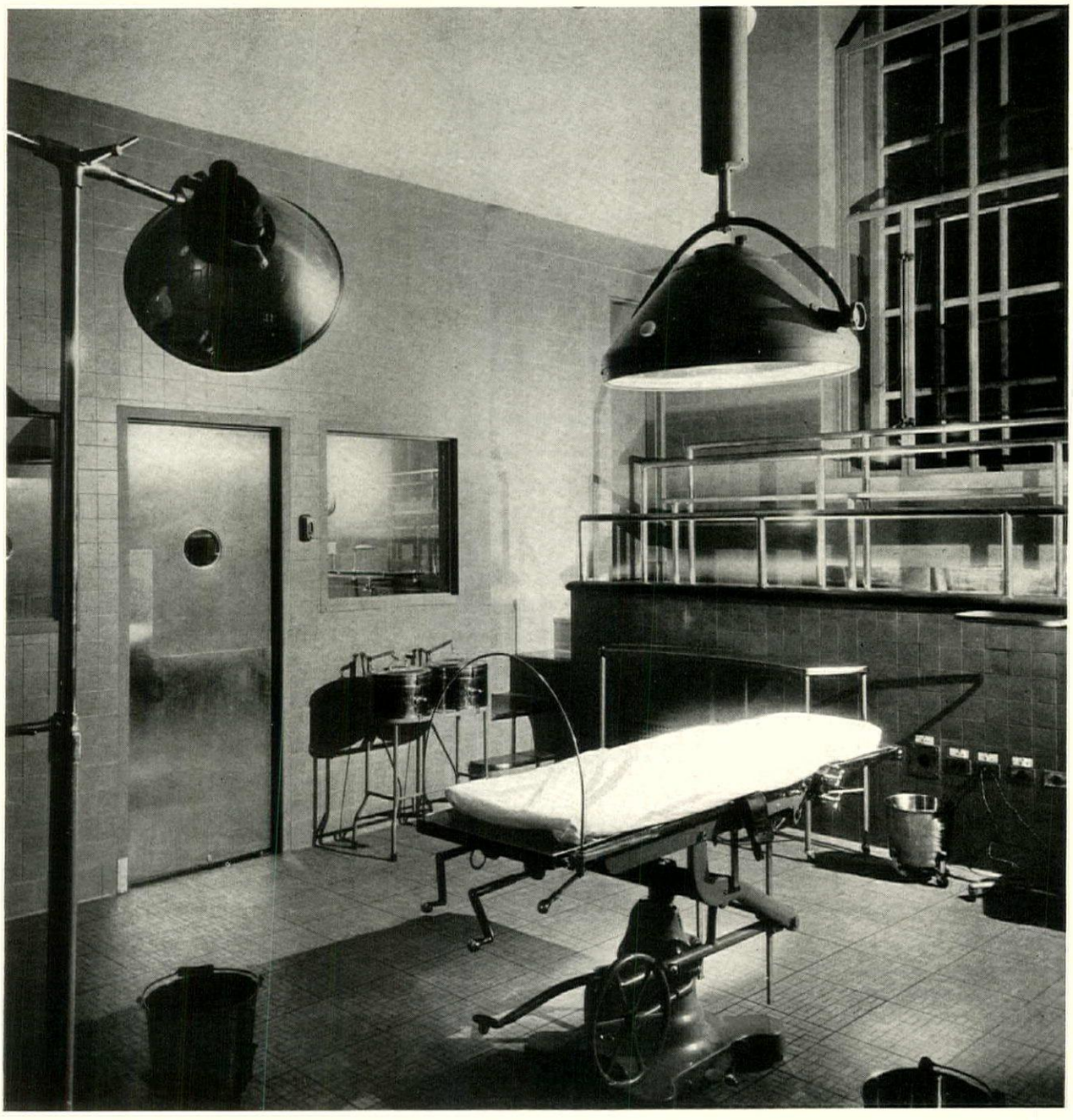


Registration desk of the out patients' department (above) which has a "green-granite" 1 in. ceramic tile dado, with hand finished plaster flush with tile above, and a floor and base of red quarry tile

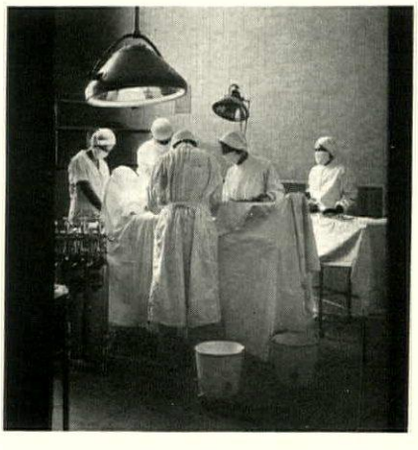
Typical bedroom for private patient (above right). Bedrooms have quartered oak parquet floors laid in mastic directly on concrete fill. The base is of black marble and the walls are covered with Salubra washable wall covering. The sash and wooden Venetian blinds are painted light to match the ceiling, but the doors and other trim are of cherry-stained pine



Typical ward unit, right, showing individual bed curtaining. The floors are of light and dark green linoleum tile and the walls are painted light buff. All furniture is enameled dark green to match the flush metal doors. The lighting fixtures are the special Johns Hopkins direct-indirect ceiling type



One of the main operating rooms with students' gallery in rear. The door and window at left open on the scrub-up room, and the door in the rear corner is a special entrance for students leading from their gown room on the floor above. The walls are of gray-blue matte finish glazed tile, the plaster above being painted a lighter shade of the same color. The floor is of ceramic tile, matching the walls in color, and divided in squares by brass strips grounded to the frame of the building



THE NEW YORK HOSPITAL
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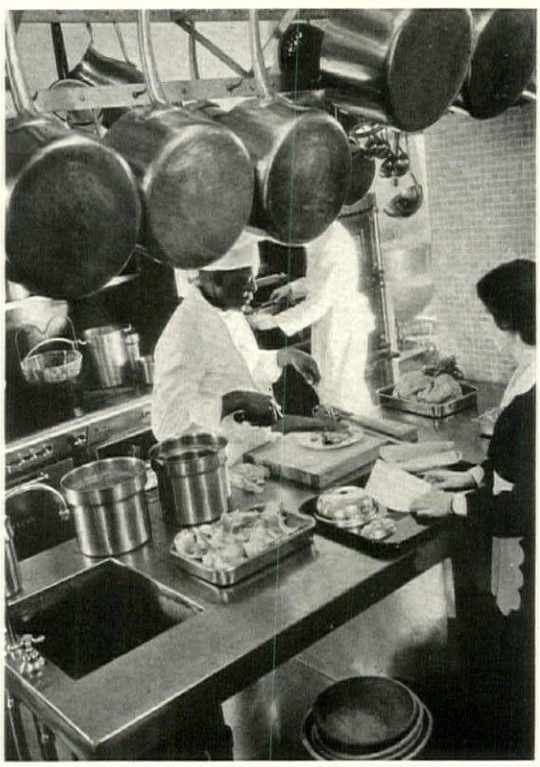




The operating amphitheater is finished in the same materials as the typical operating room, with tile walls and floors. The space is arranged to obtain maximum proximity to the operating table for a large number of students. All metalwork, just as in the operating room, is of stainless steel. The furniture, as well as the Zeiss operating lamps in all operating rooms, is of gray-blue enamel and stainless steel. (Left) One of the large steam sterilizers

THE NEW YORK HOSPITAL
COOLIDGE, SHEPLEY,
BULFINCH & ABBOTT
ARCHITECTS





THE NEW YORK HOSPITAL
COOLIDGE, SHEPLEY,
BULFINCH & ABBOTT
ARCHITECTS

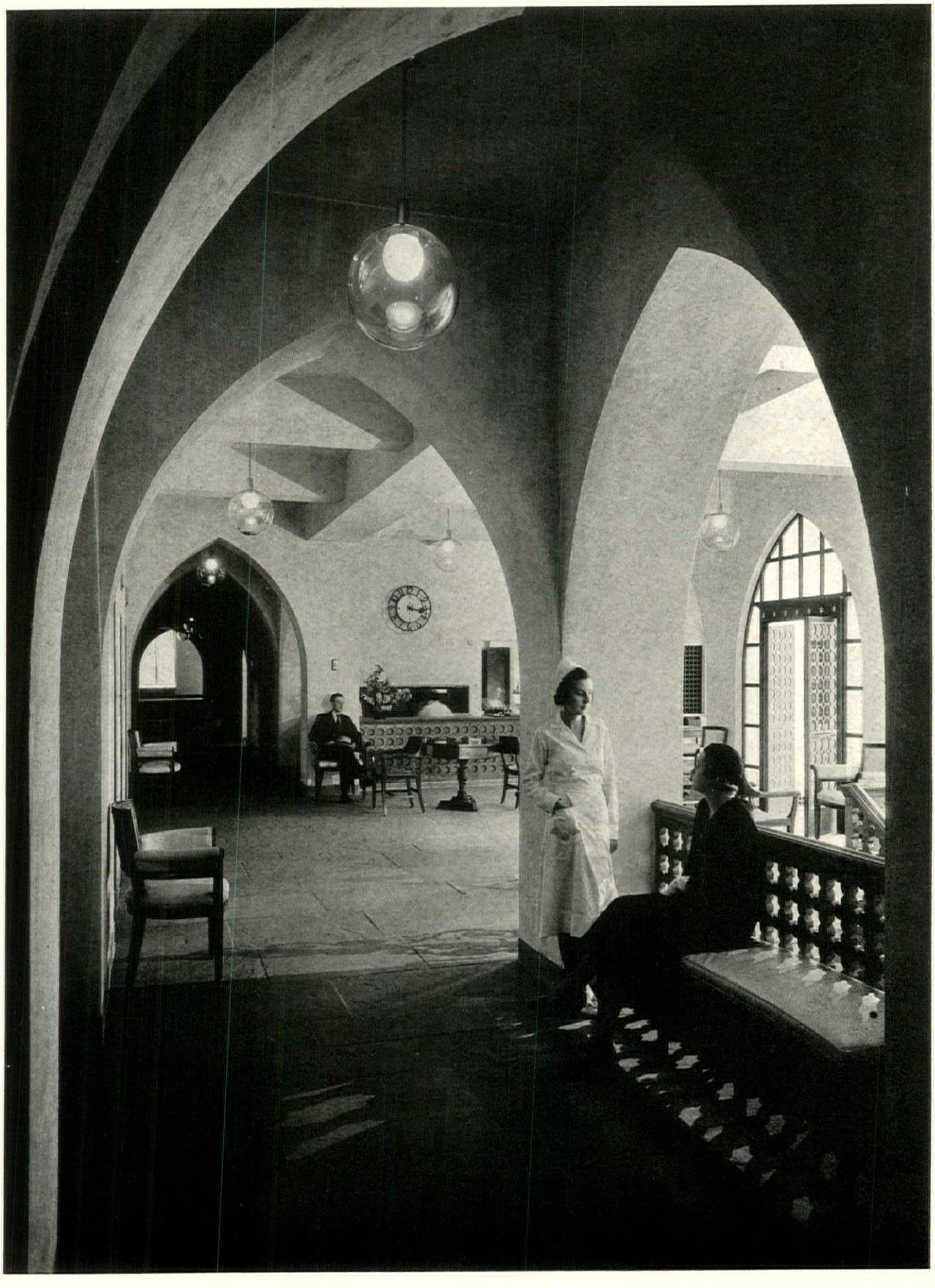
Above, the main kitchen floor, with typical serving tables. The floors are of 9 x 9 in. red quarry tile, with a 6 in. quarry tile base. Gray green tile, 1 in. square, is used for the 7 ft. 6 in. dado, which is flush with the plaster above. The doors are of the hollow type with a green baked-on enamel finish. Monel metal, stainless steel and other non-corrosive white metals are used for the kitchen equipment. Air supply pipes may be seen. The exhaust is through hoods over the ranges and kettles. At the left is shown a portion of the private patients' kitchen on the fourteenth floor



The staff dining room, finished from floor to ceiling in American white oak selected as to grain and knots. Black-and-gold and gray rubber tile, 36 in. square, is used for the floor, and the ceiling is of acoustic plaster. The chairs were designed by the architects for general use throughout the hospital. The chandelier is of white and purple glass, and the candelabra in the niches are from an old Sicilian model



The guests' dining room on the fourteenth floor, which has a floor of heather brown quarry tile, and walls and ceiling of white, hard finish plaster. The pilasters and base are of black and white marble. The natural linen curtains have a red and white Egyptian border, and the Venetian blinds are painted dark green



Entrance vestibule of the Nurses' Home, on opposite page. The floor and base are of Pennsylvania flagstone, and the walls and ceiling of hand-troweled light limestone-colored plaster. The woodwork is knotty oak, and the furniture is cherry-stained, upholstered in white leather



Typical treatment of corridor crossing, right, showing compass star in colored linoleum inlaid in black field. The dado is of Keene's cement painted gray and the walls and ceiling are painted buff

In the central library, below, the flush paneled walls are solid cherry finished natural, the floor is of cork in large parquet pattern, with a black and white marble base, and the ceiling is of acoustic plaster. The tables are of solid unstained teakwood, and the lighting fixtures are of frosted glass with stainless steel supports

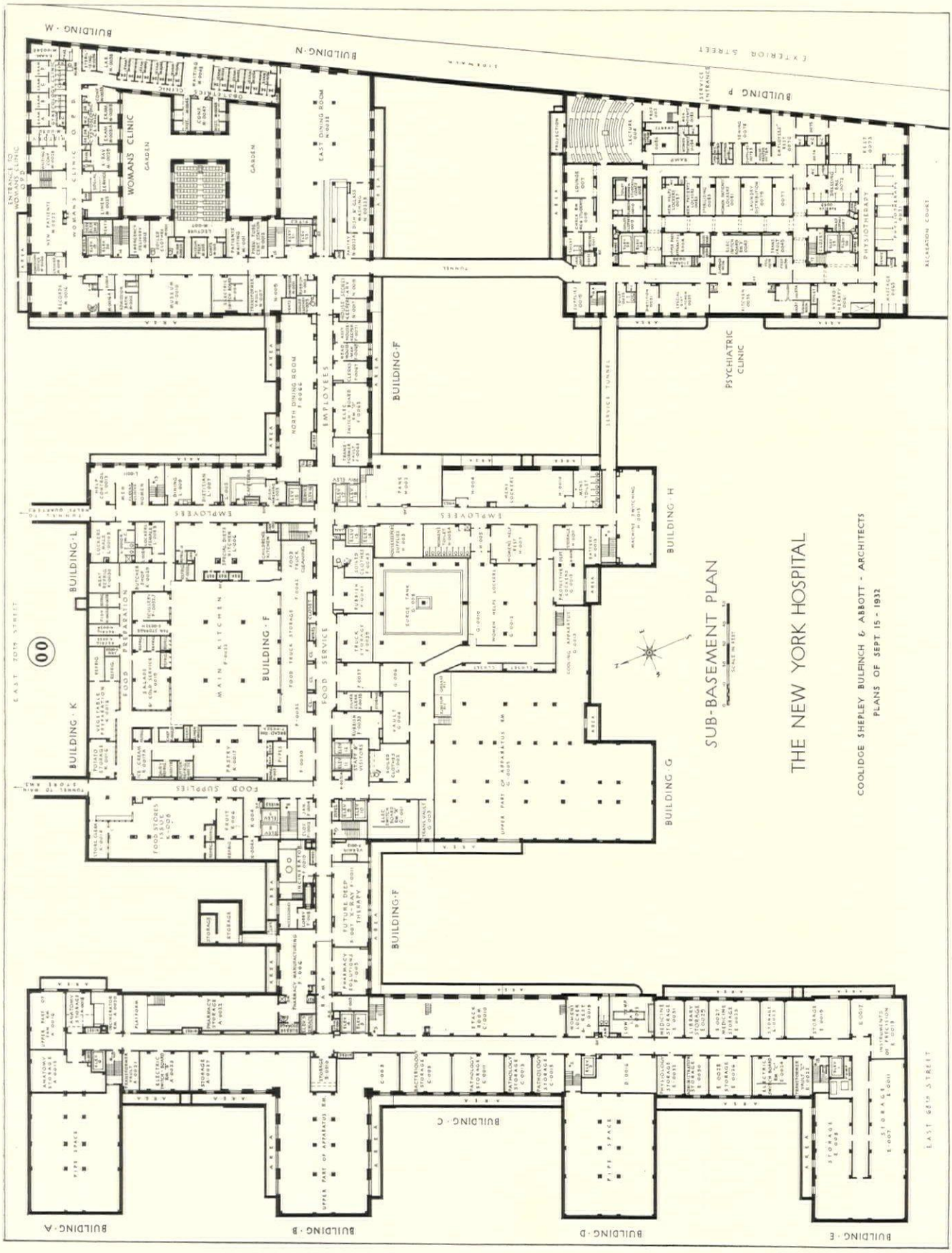




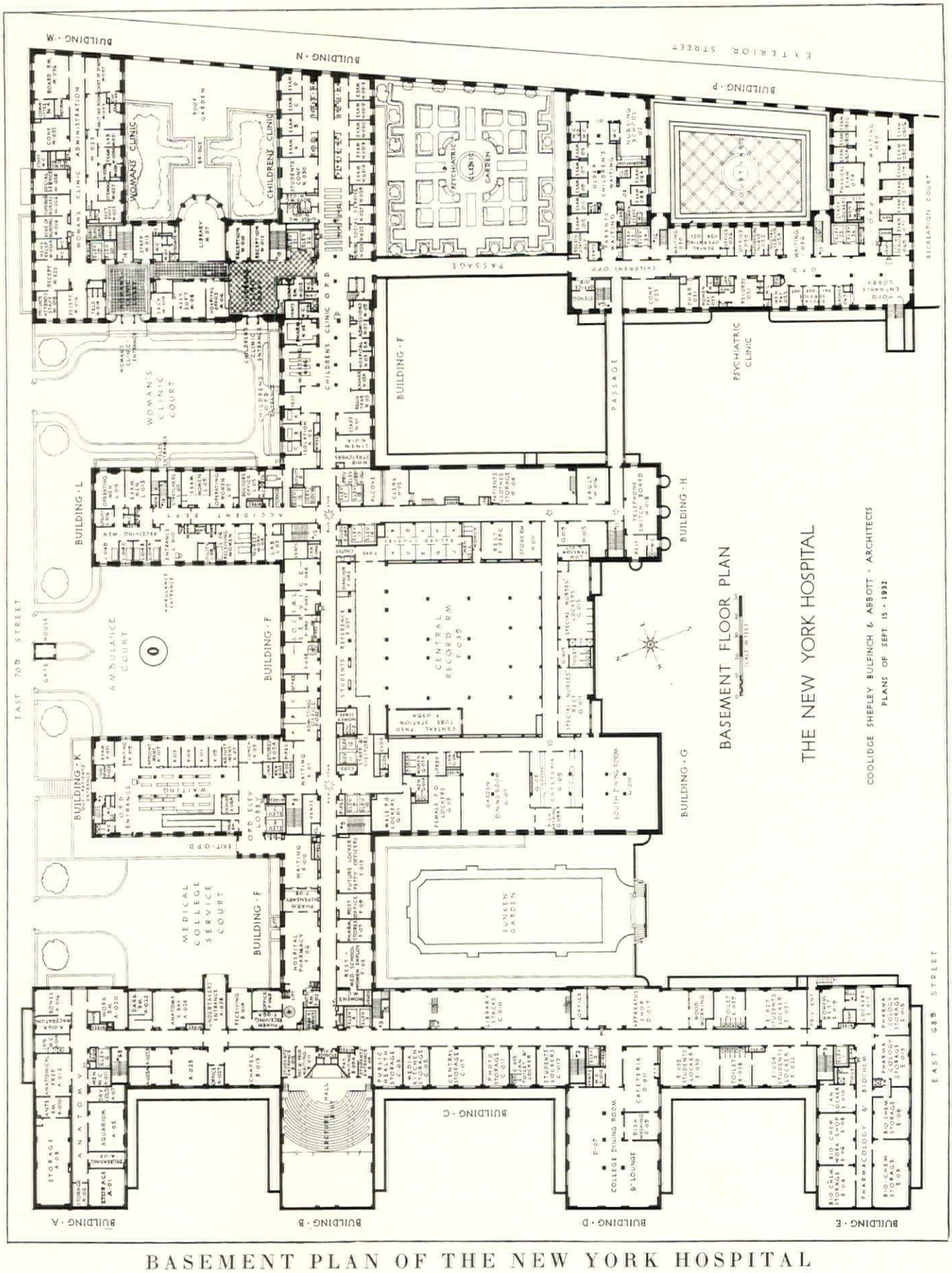
Student nurses' dining room. The walls are of hand-finished plaster painted ice green, with the columns and the acoustic plaster ceiling painted white. The floor is of red and light pinkish-gray rubber tile, laid in 3-foot squares

THE NEW YORK HOSPITAL

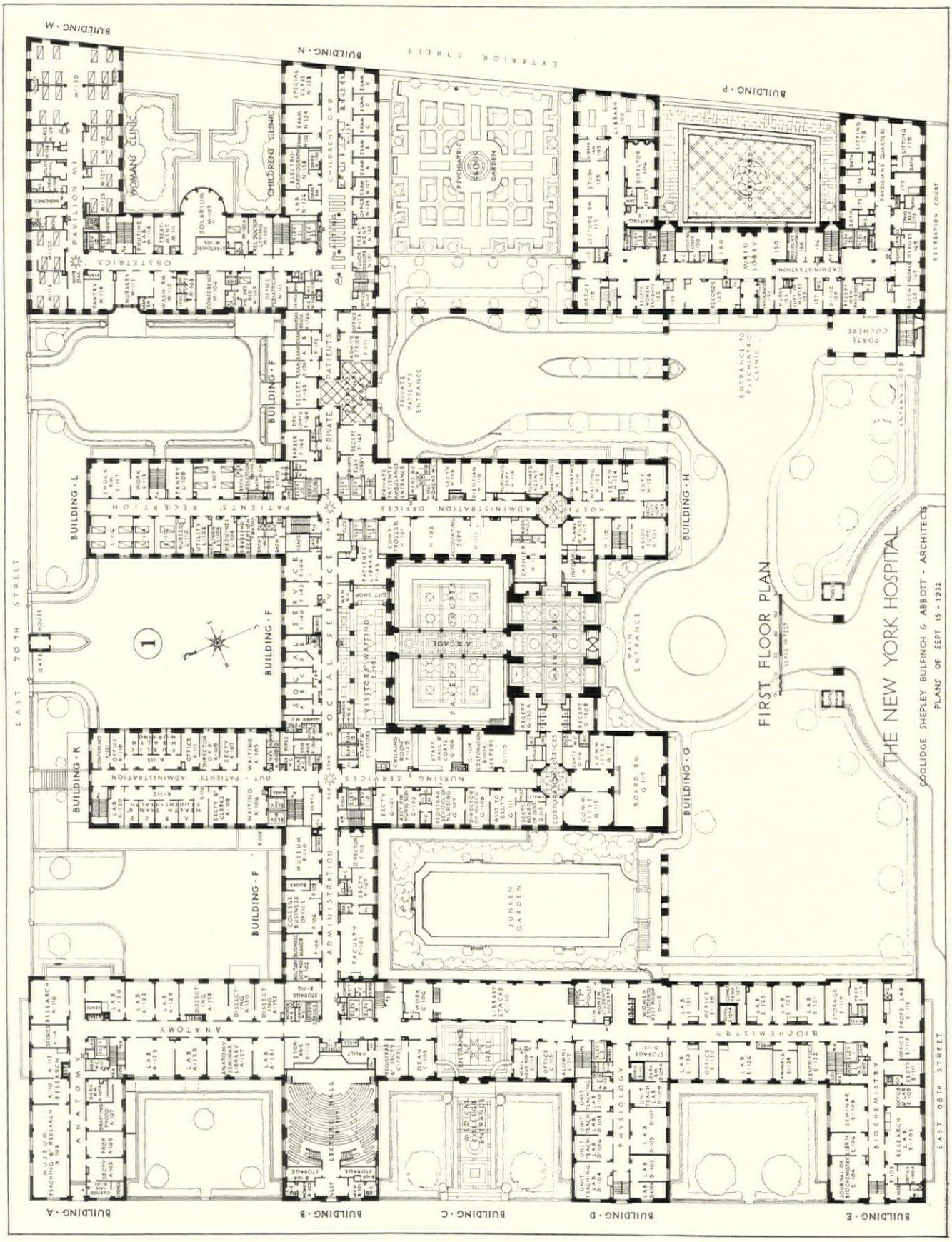
COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS



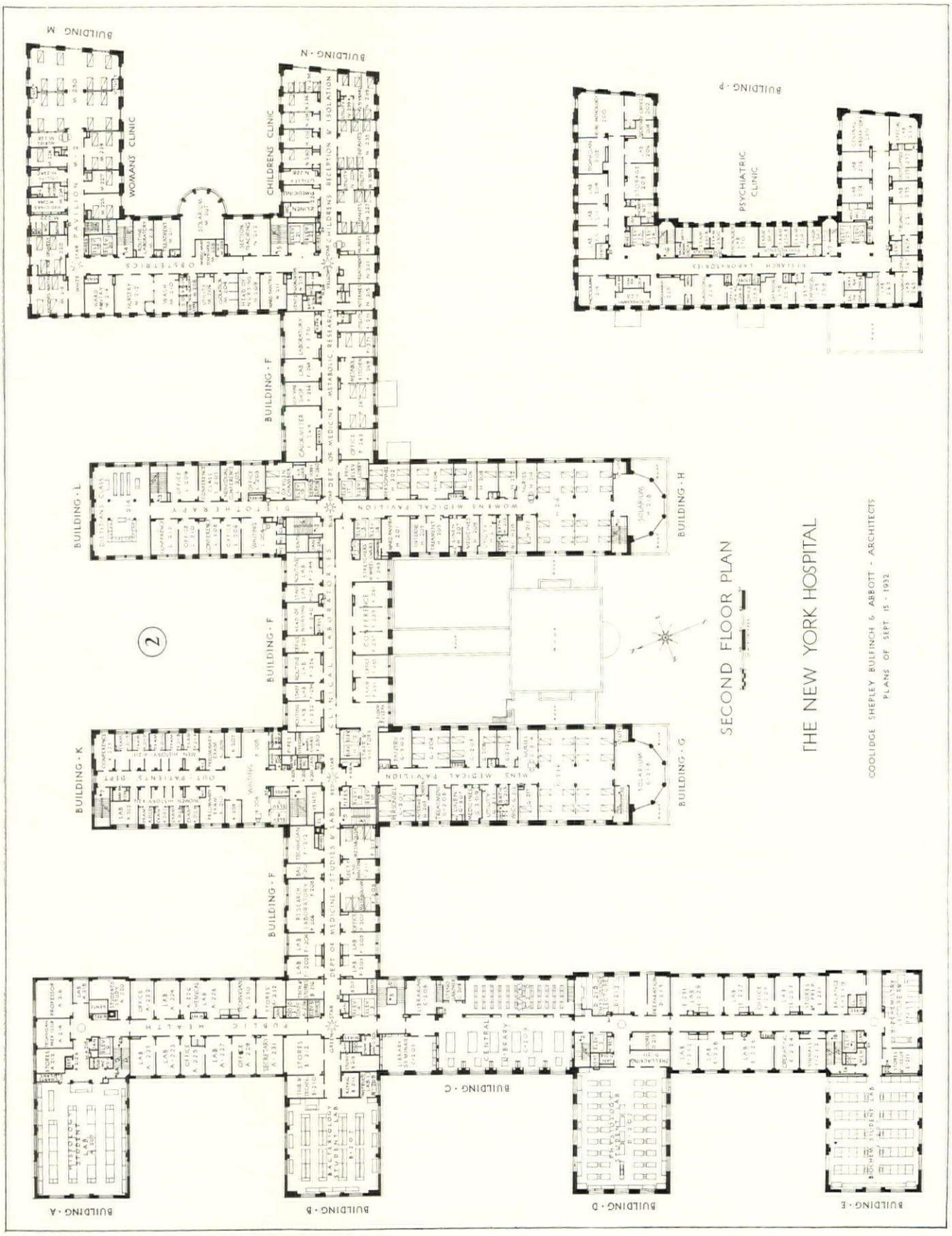
SUB-BASEMENT PLAN OF THE NEW YORK HOSPITAL



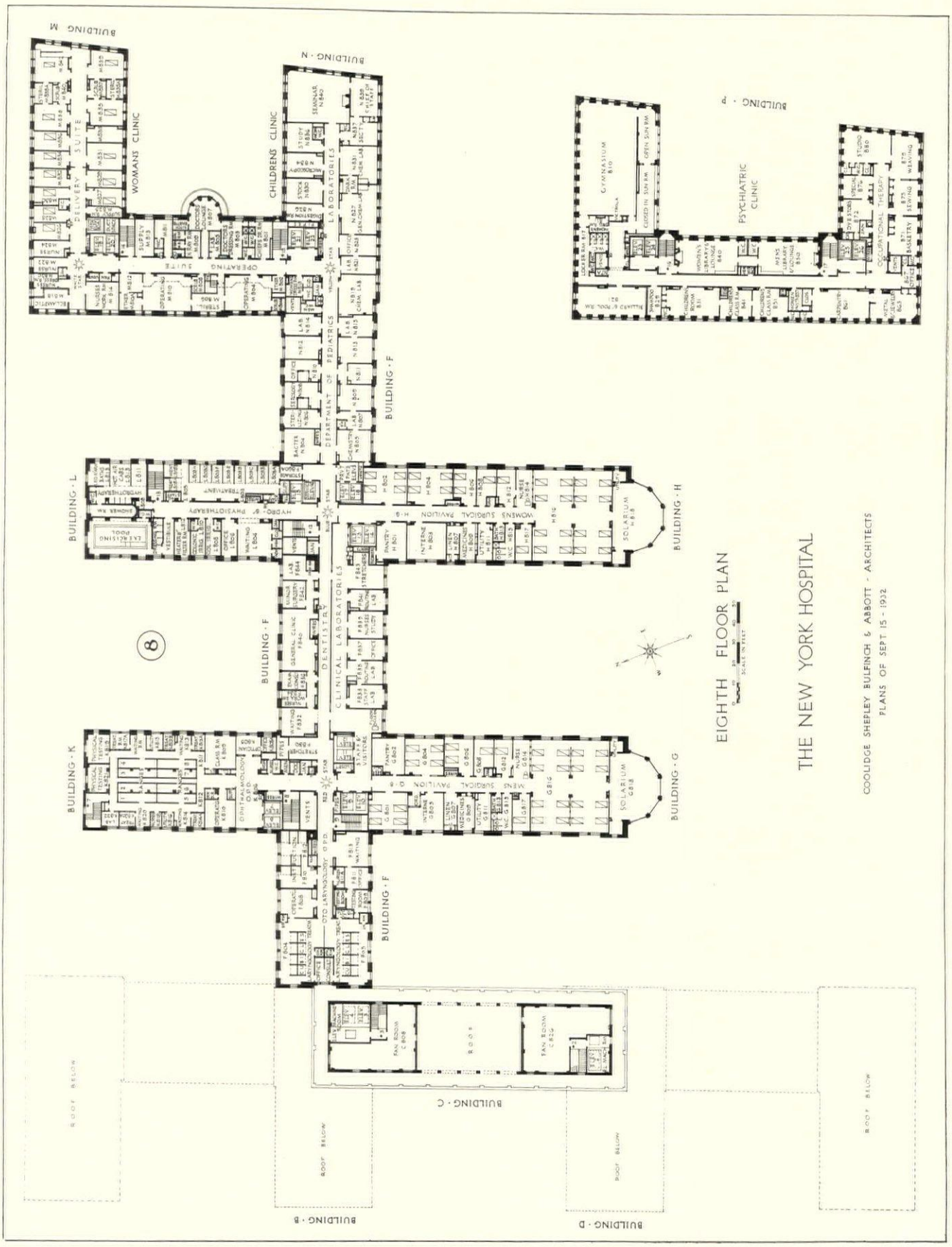
BASEMENT PLAN OF THE NEW YORK HOSPITAL



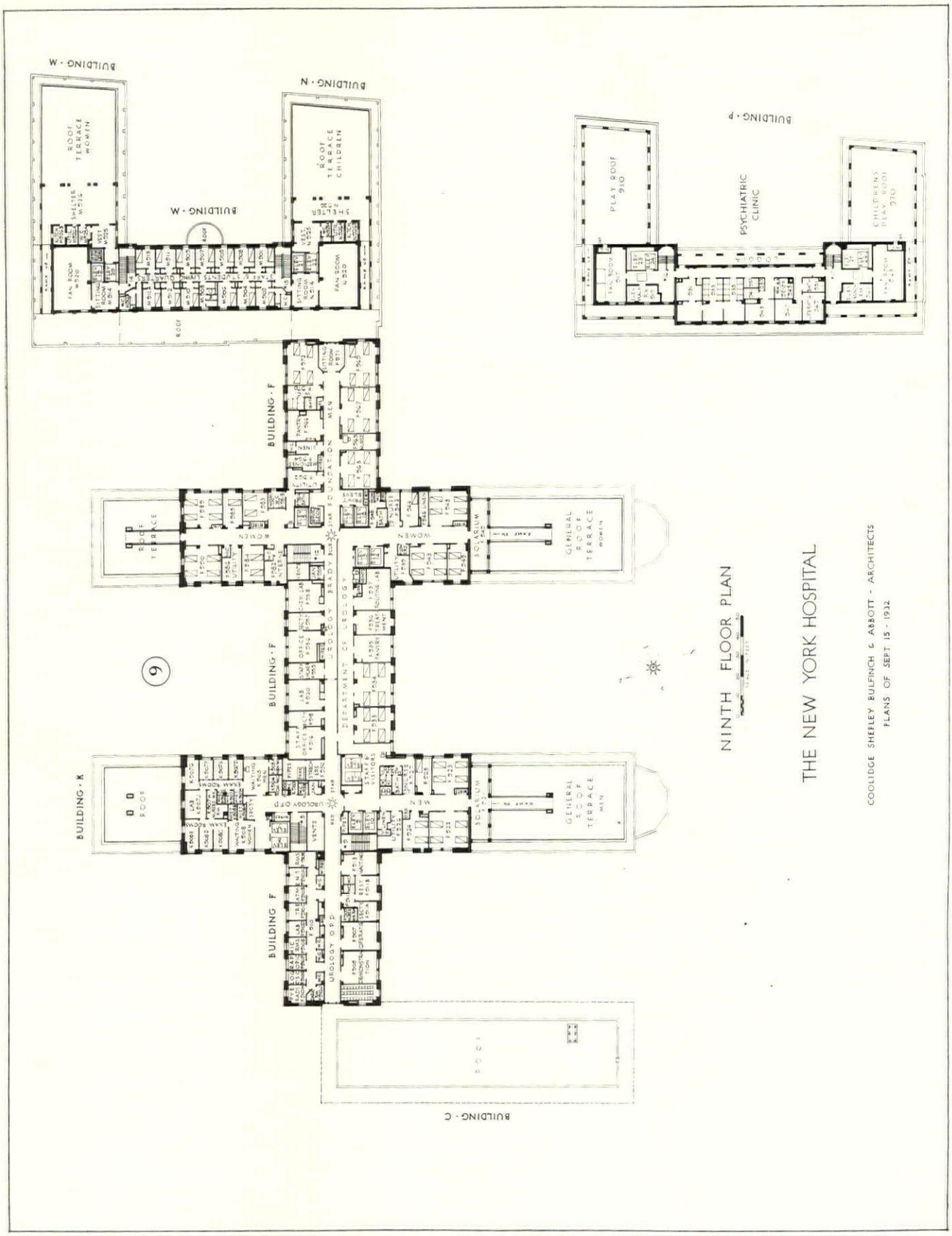
FIRST FLOOR PLAN OF THE NEW YORK HOSPITAL



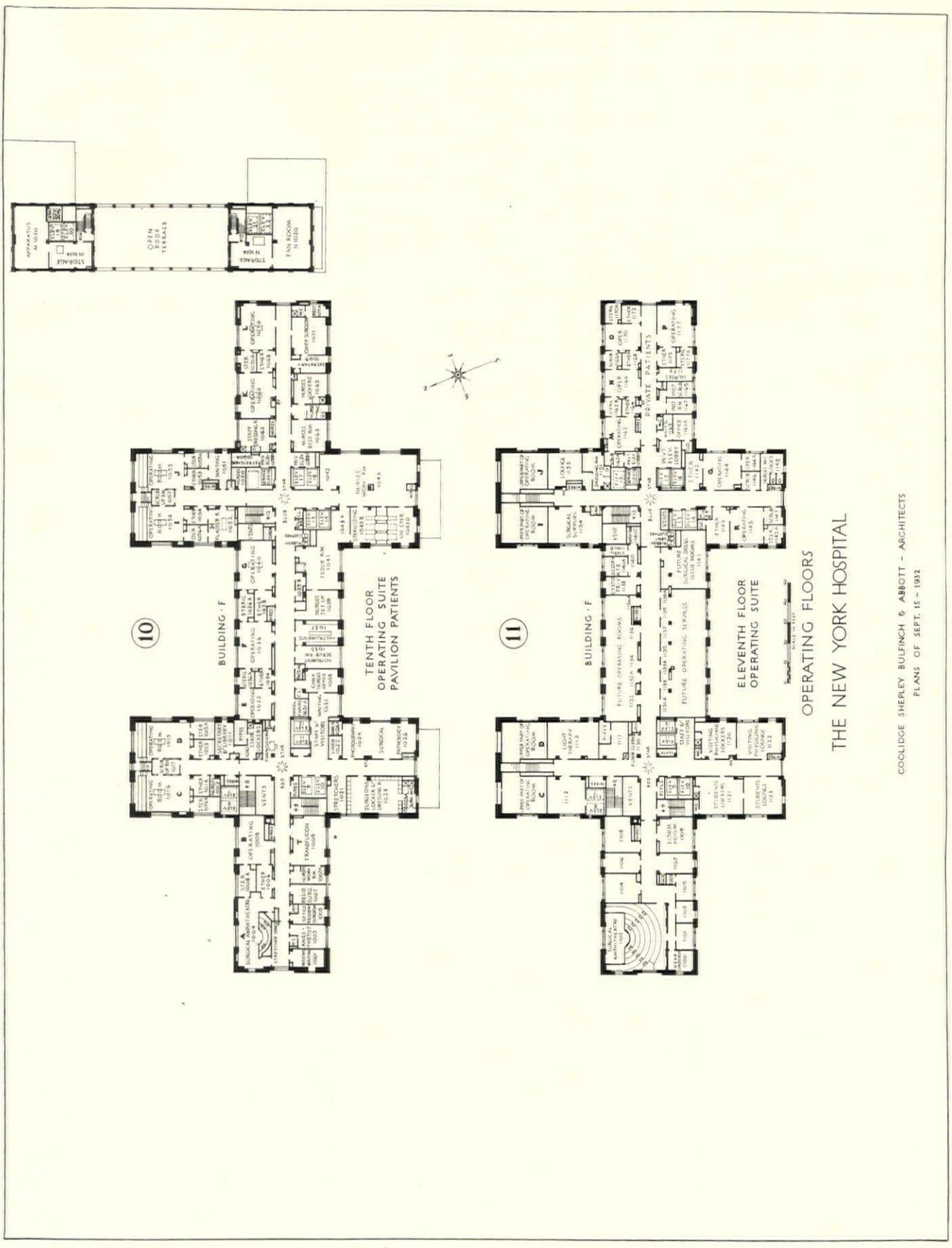
SECOND FLOOR PLAN OF THE NEW YORK HOSPITAL



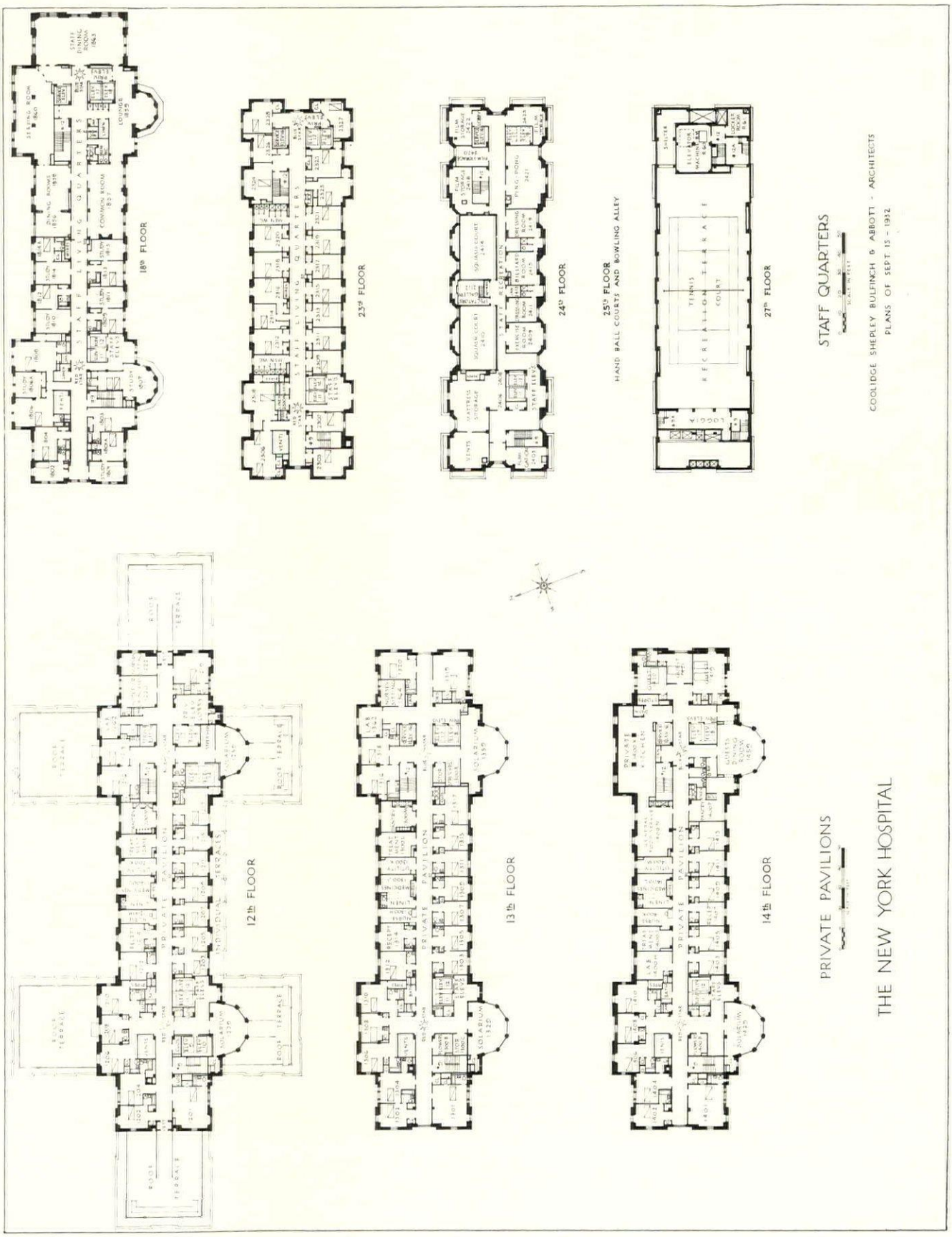
EIGHTH FLOOR PLAN OF THE NEW YORK HOSPITAL



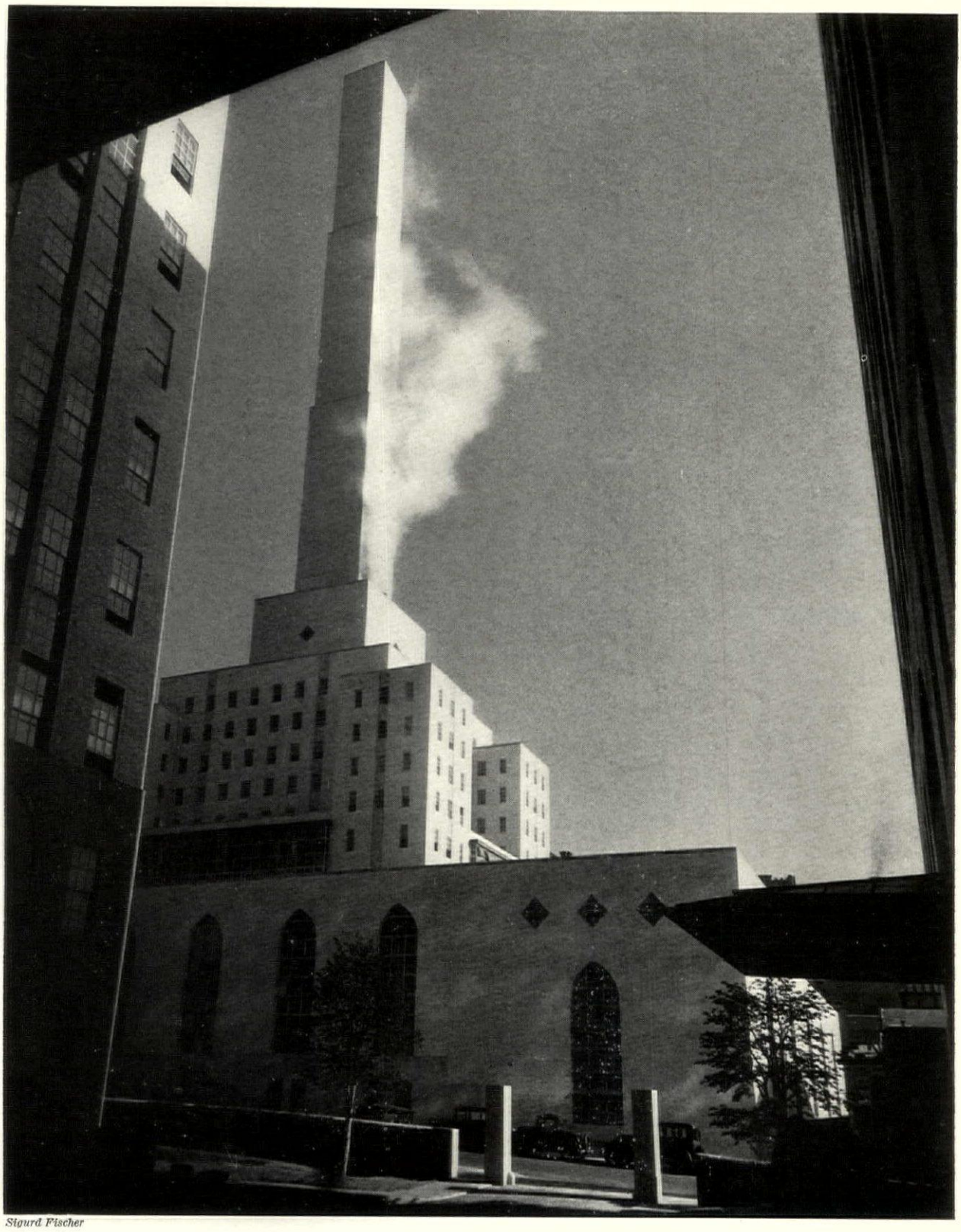
NINTH FLOOR PLAN OF THE NEW YORK HOSPITAL



OPERATING FLOOR PLANS OF THE NEW YORK HOSPITAL



UPPER FLOOR PLANS OF THE NEW YORK HOSPITAL



Sigurd Fischer

The Power House and Service Building from the entrance to the Woman's Clinic

ENGINEERING FEATURES OF THE NEW YORK HOSPITAL

COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS

THE STRUCTURE AND EQUIPMENT

OF THE NEW YORK HOSPITAL

THE hospital problems, more than many others met by the architect and designing engineer, are replete with technical difficulties and special requirements. In a project of such size and diversity as this, the technical problems present themselves with almost numberless ramifications. The ever changing and advancing state of scientific knowledge concerning the care and cure of the sick demands ever new provision in the hospital's physical equipment. While various strictly mechanical aspects of the hospital group are treated here in some technical detail, it should be borne in mind that each item of material and equipment has been considered from the aspect of its particular function in relation to the others which, combined, contribute to the effectiveness of an institution dedicated to human needs.

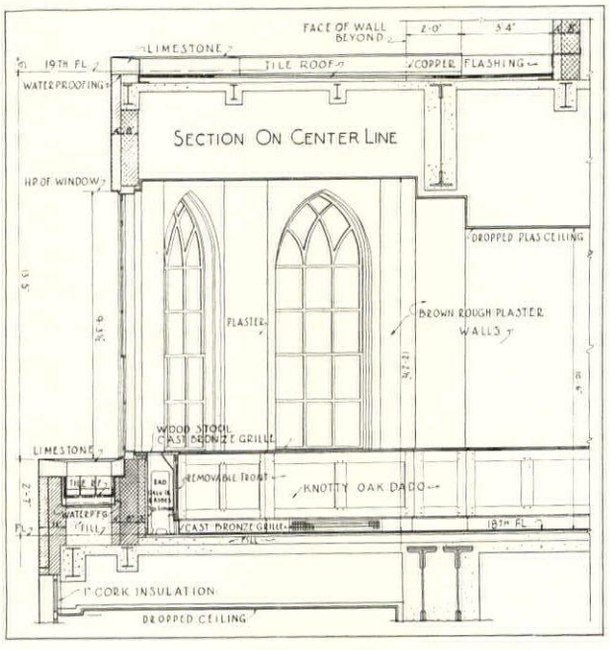
CONSTRUCTION. Throughout this group of buildings steel framing with reinforced cinder-concrete floor arches is faced with a selected light brick above a one-story base of variegated buff and blue limestone. The roofs in many instances are specially designed as sun decks for patients. (See p. 119.)

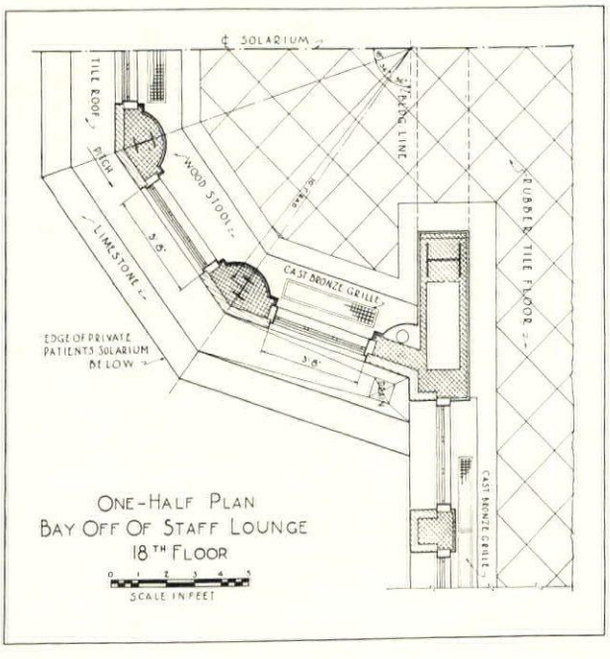
The windows are of steel, double-hung, with cast iron sills out to face of wall. In the tall arched windows the spandrels are of fixed sash, the same type as the movable sash, but glazed from the outside and backed with an insulation of cork board painted black. (See p. 119.) Spandrels in the Woman's Clinic are of sheet metal specially designed. The sash in the arched tops of these windows open horizontally, while the solaria casements are vertical. The casements of the Psychiatric Clinic have stops to prevent their opening more than 5 in., and in patients' rooms a special ratchet device operates the windows through the face of the sill apron and can be locked in place.

Most screens are also double-hung and set inside the glass so as to slide up for winter storage behind the spandrels above. (See p. 119.) This arrangement saves the glass from being stained after rain storms and facilitates window washing.

ELECTRICAL EQUIPMENT. The hospital group possesses an independent coordinated steam and electri-

EDITOR'S NOTE: The information embodied in this article has been condensed from that supplied through the cooperation of Buerkel and Company, the heating and ventilating engineers, Hixon Electric Company, the electrical engineers, and James A. Cotter Company, the sanitary engineers.





cal generating plant capable of furnishing power and light for a city of 40,000. Generators of both alternating and direct current are operated on the same shaft in the 2,500 hp. engines which have a normal driving capacity of 1,500 kw. There are three such engines, with provision for two future units of the same size.

Alternating current generated at 600 volts is distributed without transformation to the majority of the a.c. motors throughout the institution, but for all lighting, heating, and X-ray apparatus this voltage is stepped down by air-cooled transformers to a 3-wire 115/230 volt system. Direct current is generated and distributed on a 3-wire 115/230 volt system. Both a.c. and d.c. feeder systems use a common bare neutral bus completely grounded throughout the circuit. Although of a dead-end type, the system is arranged with interconnecting ties so that any feeder may be taken out of commission without interfering with the service.

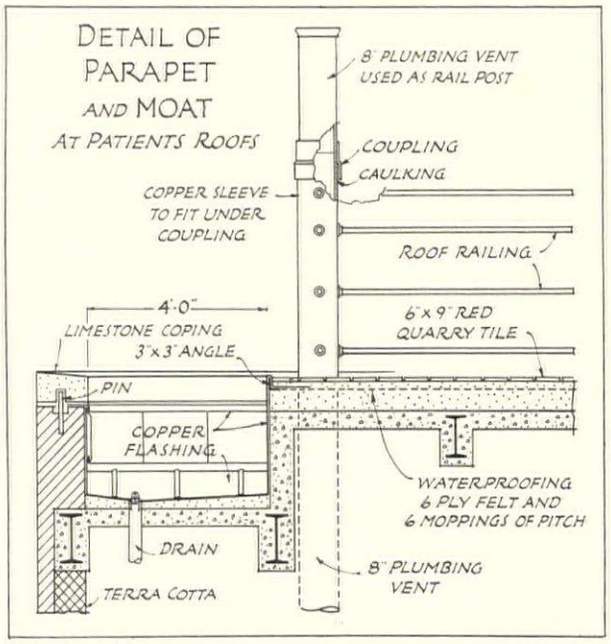
Emergency storage batteries guarantee continuity of lighting in all operating rooms, as well as in boiler, engine and pump rooms. Supervision of the electrical plant may be left to one man at a universal control board, governing all switching, starting and stopping, and regulation of the prime motors.

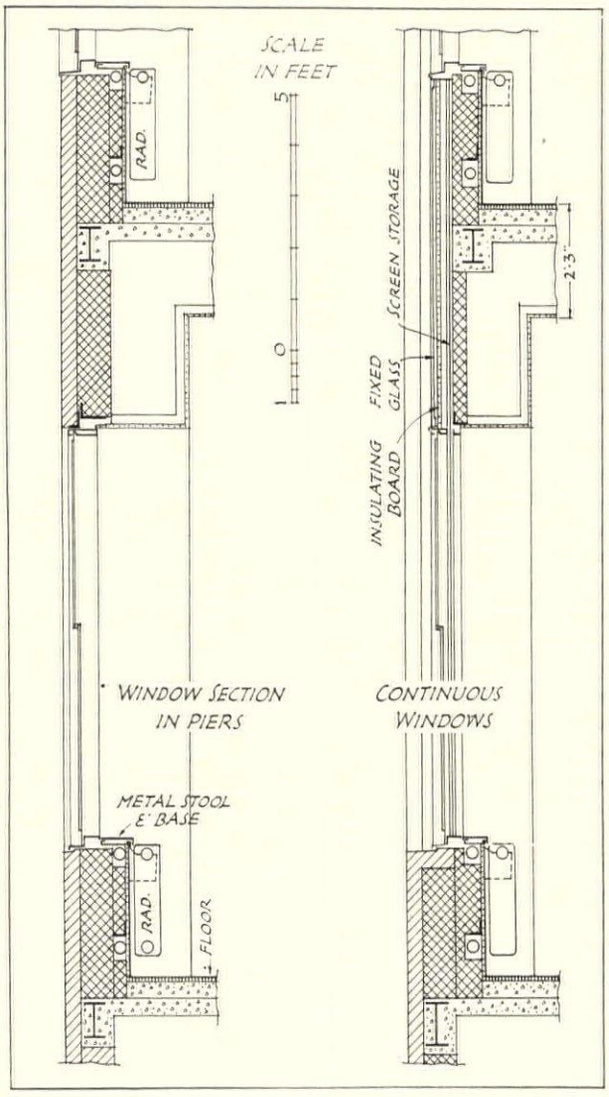
The 36 new-type elevators distributed among the various buildings are operated by gearless traction overhead motor generator sets, 550 volts 3-phase a.c. motors driving d.c. generators, variable voltage. Control of these is through special elevator switchboard rooms in each building.

A central signal control at the information desk in the Main Hospital coordinates the telephone system, the doctors' in-and-out indication board, and a loud-speaker doctors' paging system, thus giving the administration ready contact with every member of its personnel. Similarly, at a central control point in the power house, all watchmen's stations as they are visited are reported and a signal system in each watchman's unit provides telephone connection with the supervisor at the control point. Adjacent thereto are the alarm signal of the fire-detection system and the annunciation boards, wired to coded boxes in eleven zones throughout the buildings, indicating the exact location of a fire as soon as it is reported.

HEATING AND VENTILATING. The 30,000,000 cu. ft. of space in these buildings are served by a plant of four boilers (to be increased ultimately to seven), each capable of producing 1,600 hp., or 54,000 lbs. of steam per hour. While the maximum winter load is handled by three boilers, the fourth being held as a reserve unit, one alone carries the summer load comprising steam for generating electricity, hot

Details of the solarium, the "moat" type roof and parapet, and the windows and spandrels







Courtesy, Petroleum Heat & Power Co.

The battery of oil-fed boilers each rated at 1,600 hp. The electric control apparatus regulates oil feed, speed of forced draft fans, quantity of air supply and of stack gases

water supply, servicing of kitchens, laundry, laboratory and hospital fixtures, and heat for special constant-temperature rooms. Each boiler has an electric apparatus regulating oil feed to its burners, speed of forced draft fans, quantity of air supply to burners, and volume of gases permitted to pass into stack.

Oil is used because of its flexibility, economy, cleanliness, and ease of handling, but the plant is designed also for overhead bunkers and ash handling equipment if necessity should arise for conversion to the use of coal. The oil is pumped from tank barges in the East River through a 10 in. fill line to six storage tanks of 135,600 gals. total capacity. It has been estimated that 12,000 gals. is an average consumption on a winter's day.

High-pressure steam at 200 lbs. is used for the dynamos, power plant auxiliaries, and general service in the various buildings. Heating, ventilating, and hot water are supplied by a low-pressure system of 2 lb. exhaust mains. The laundry is on a 100 lb. system, while the kitchens and hospital and laboratory fixtures are on a low-pressure system. All pipe lines are provided with extra reserve units and by-passes, insuring continuous heat and power to all buildings.

Type of Heating. Hot water with its greater flexibility to meet changing outdoor conditions was preferred to steam heating radiators whose high temperatures tend to burn the smaller particles of dust in the atmosphere. Low-pressure exhaust steam from the electrical generating engines is applied to eight systems in the lower basements for the heating and circulating of the water.

The zones of the heating system in the higher buildings are ten stories in height, the lower buildings having but one zone. The main feeders are located in apparatus stories between zones, the supply mains generally at the top of the zone and the return mains at the bottom, with the heated water being fed downward to the radiators. Expansion tanks at the top of each system keep the radiators and pipe lines free of air by natural flow. Each system is equipped for automatically regulating the temperature of the water at the heaters.

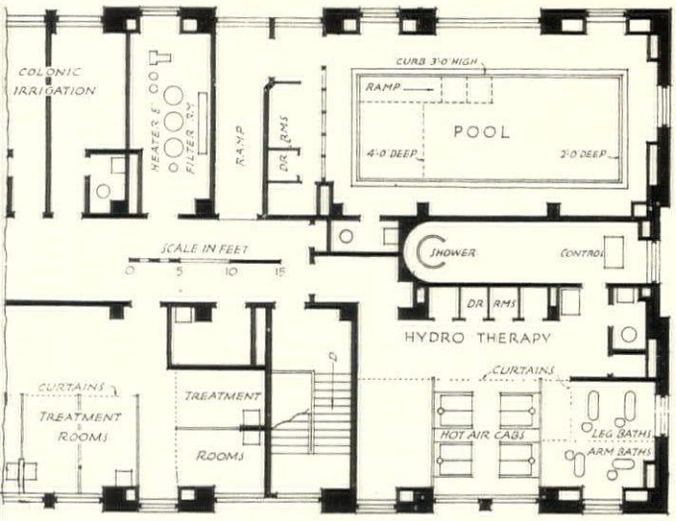
Ventilating Systems. A general system of 117 electrically driven fans moving 1,468,000 cu. ft. of air per minute maintains a slight pressure in the corridors, the direction of air flow being into the individual rooms from which it is exhausted, preventing the passage of odors from one room to another.

Special systems are provided for the operating suites, kitchens, chemical laboratories, toilets and utilities, and animal rooms.

All fresh air delivery systems have automatic self-cleaning air filters, copper air heaters and temperature controls. The blowers are located in lower basements, apparatus stories and roof houses.

Air Conditioning In operating suites, premature nurseries, and experimental constant-temperature rooms unusual conditions exist requiring special control of temperature and humidity, with automatic maintenance of a given condition. For this purpose fresh air from out-of-doors is drawn through dry mat filters and passed over copper fin-type steam heaters which lower the relative humidity as the air is heated; it is then passed through sprays of water preheated by steam to add, or precooled by brine to extract, humidity and to raise or lower its temperature as required. In each branch delivery duct a steam reheater adjusts the final temperature of the air to the exact degree required.

Refrigeration. Service includes drinking water coolers, kitchen refrigerators, special refrigerated rooms, and air-conditioning apparatus. Calcium brine, cooled in four electric compressors using CO_2 as refrigerant, is pumped to the several cooling units. The refrigerating plant, operating in conjunction with the power house, has a capacity of 213 tons, of



which 20 are for ice making, 118 for air conditioning, and 75 for general service.

Plumbing and Sanitation. Requirements under this head range from single simple fixtures to entire special units for laboratories, operating rooms, diet kitchens, and the like. There are installed some 8,400 fixtures, including 1,175 water closets, over 500 pieces of sterilizing apparatus, and many specially designed fixtures, such as drinking fountains, leg baths, irrigation tables, and continuous baths. To serve these there are 300,000 ft. of steel pipe, 230,000 ft. of brass pipe, and 50,000 ft. of stoneware pipe.

Drainage is separated into four systems: (1) Regular sanitary waste, (2) laboratory waste, (3) roof and area rain water, (4) underground drainage — each with separate installation in the different buildings up to the point where it leaves the building.

The discharge is by gravity for all fixtures on the level of the Main Hospital floor or above. Below this level a system of motor-driven centrifugal ejectors is used, with five pumps located in the southerly group and two in the northerly. Sub-soil drainage is piped to the ejectors through sand traps to prevent the entrance of silt and sand into pumps and drainage system. In the kitchen waste lines three large grease traps eliminate the plugging of pipes from that source and enable the grease to be salvaged. Laboratory drainage is fitted with acid-resisting stoneware pipe.

Roughing throughout was designed for flexibility by having plugged outlets in all risers, so that a branch from any riser may be installed to accommodate a new outlet. Cutting of holes in steel beams to permit the passage of pipes was done during fabrication, and whenever pipes were installed in the floor slab a sheet metal hood protects them from being buried in solid and permits the floor to be finished regularly.



Sigurd Fischer

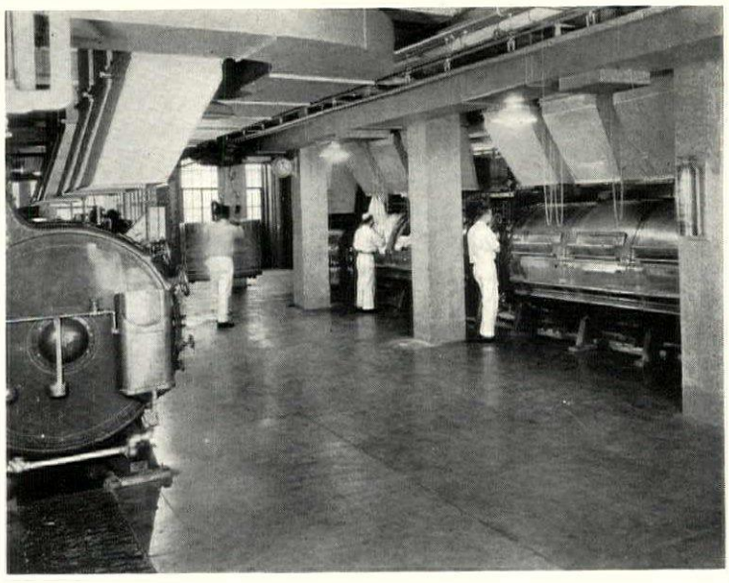
A portion of the hydrotherapy department showing the pool and showers. The plan indicates the general arrangement of this portion of the hydrotherapy department

Water supply storage in both groups of buildings consists of a surge tank in the sub-basement and a house tank at the top of the building. The surge tanks, of 136,000 gals. total capacity, are filled through ten services from the city mains, and the water is delivered to the house tanks holding 157,000 gals. by nine automatic booster pumps.

An independent chilled water system is installed in each group of buildings to serve drinking fountains, main and diet kitchens, the Scotch douche in hydrotherapy suites, and various tanks and sinks in dark rooms. Each system has a quartz and charcoal duplex filter and storage tank. The northerly group is served by an overhead downfeed loop system equipped with duplicate circulating pumps. The southerly group has an upfeed system divided into three units with balance tanks: (1) the high zone of the Main Hospital unit, supplied by a 12 g.p.m. pump and tank at top of building; (2) the low zone of the same unit, supplied by a 110 g.p.m. pump and tank at apparatus floor level, with a loop for the Medical School and a loop for the Woman's Clinic; (3) the Psychiatric Clinic unit, supplied by the low zone pumps from a tank at top of building.

Separate hot water systems serve the high and low zones of the Main Hospital, the Medical School, Woman's Clinic, Psychiatric Clinic, Nurses' Home





Courtesy, American Laundry Machinery Co.

The modern laundry equipment installation provides sorting-room hoppers above the battery of washing machines, providing direct chutes and hoppers to the proper machines

and power house. All are of the overhead loop down-feed type supplied from a duplicate installation of copper-lined steel tanks fitted with removable copper coil heating elements. There is total storage in these tanks for 13,100 gals. with 21,600 g.p.m. heating capacity. The Psychiatric Clinic has two hot water systems, one of high and one of low temperature; the low temperature system with an established maximum of 110° supplies the hot water fixtures used by patients, and the high temperature system serves all other uses.

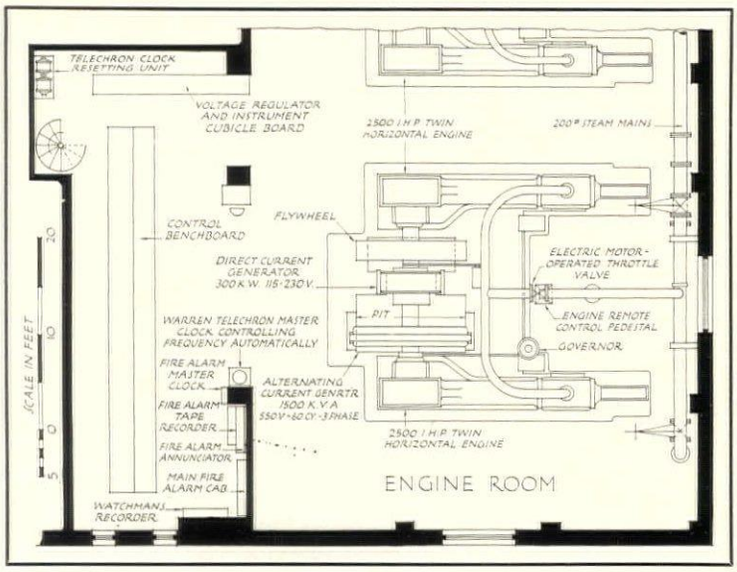
Fire protection standpipes in all buildings are supplied with water from three sources: the high zone tank in the Main Hospital with fire reserve storage of 15,000 gals., the power house fire pump rated for 750 g.p.m. against a 610 ft. head and drawing on the power house surge tank reserve of 12,000 gals., and the city main direct through the city fire apparatus at the siamese connections at exterior walls. Within the buildings the main risers have outlets for fire department connections at each floor, and each riser has a roof monitor. In addition to this city water, there is a siamese connection on the Exterior Street wall to which the fire boats may attach their hose to pump river water. From this connection a line runs directly through the buildings to a connection on the York Avenue wall where a fire hose may be attached.

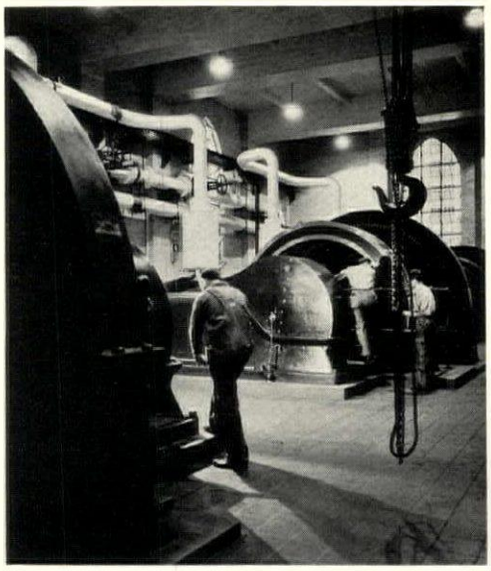
The hydrotherapy suite contains a feature of special interest in the 6,500 gal. recirculating pool. (See p. 121.) The filter room contains three tanks of graduated sand and gravel having total area to permit a slow rate of filtration. Liquid chlorine is introduced in a fixed amount into the circulating system for sterilization. Water in the pool is completely changed every five hours, once for each morning and afternoon clinic. The temperature of the water can be maintained constant, or raised 20° in two hours, by a copper water tube heater.

X-RAY DEPARTMENT. The central group in the Therapy Building consists of radiographic and radioscopic apparatus arranged in groups of two rooms with a control and machine room between. Adjacent dressing rooms and toilets make it possible for patients to prepare for treatment without interfering with the one being treated, thereby greatly increasing the number that can be cared for in a given time. Heliotherapy apparatus is installed in the semicircular solarium space on the same floor. (See p. 123.) Psychiatric and Woman's Clinics and the surgical floor of the Main Hospital each have independent X-ray units.

Insulated rooms for deep therapy, or special internal treatment by X-ray, have ¼ in. lead insulation under the finished rubber floor, and walls and floor overhead have ⅛ in. lead over the entire area. Insulation in the walls is of unpierced sheet lead between two layers of concrete block. In the rooms for superficial therapy (treatment of the epidermis by X-ray), and in radiography and radioscopy rooms the lead insulation is in the form of a mat in the floor extending 1 ft. beyond all sides of the treatment tables. The flush wood doors to these rooms have in their center a continuous sheet of lead of the same thickness as in the walls. The control cabinets' windows of lead glass permit the operators of the X-ray equipment to view and talk to patients, without exposure to the radiation.

INTERIOR FINISH AND MATERIALS. The flooring in ward units, corridors, and operating suites is of







Electric power, both a.c. and d.c., is provided by generators operating on the same shaft, as shown in the diagram and photograph above . . . At the right, a room devoted to heliotherapy, provided with a circular arrangement of sloping cots under the immense lamp

Sigurd Fischer Photos

linoleum tile, adopted because it is harder than linoleum and will not dent so easily, will lend itself more readily to repairs, and can be laid in different patterns. Asphalt tile is laid elsewhere throughout the hospital, Medical College, and staff quarters. The main kitchen with its dependencies and adjoining corridors is floored with red quarry tile, which is also used in corridors and waiting rooms of the dispensary. Treatment, utility, and operating rooms have ceramic tile floors.

Most doors are hollow metal with baked-on enamel of different colors for different sections of the buildings. Metal bucks finished flush with the plaster are used throughout and they have a thin sheet of stainless steel 6 in. high at the bottom for protection against floor-cleaning apparatus.

Wall bases are in general of three materials: black marble, used with the linoleum tile flooring; black rubber tile, used with asphalt tile flooring; and black cement finished with black bituminous paint, used in laboratories. Black as a color was chosen because of its neat appearance even under heavy wear.

Sound Absorption. Walls and ceilings are for the most part of lime plaster troweled fairly smooth and treated with wax. This preserves the sound-deadening properties of lime mortar plaster to the fullest extent. In corridors a 4 ft. dado of hard cement plaster withstands the extra wear. In the

auditorium, lecture halls, libraries, and dining rooms, where maximum sound absorption is necessary, acoustolith plaster is used on the ceiling and, in some instances, on the walls where lime plaster is not sufficient. Rubber tile in the common and dining rooms, cork tile in the libraries produce quiet, resilient floors. Noise from elevators to bedrooms is minimized by a separating wall of double 3 in. terra cotta partitions with a 2 in. air space between. In the Psychiatric Clinic special prevention of sound penetration from one bedroom to another is effected by the use of 3 in. porous hollow cement block double partitions with 1½ in. air space between blocks. Soundproof doors and double sash for windows insulate the corridors.

Food Service. The volume of this gives some indication of the size of the institution. Provision is made to feed approximately 3,000 people, through five kitchens, as follows:

Employes (Male and female)		500
Petty officers, special nurses, etc.		400
Ward patients (Main Hospital & Woman's Clinic)		718
Medical students	Lunch only	320
Surgeons	Lunch only	50
Out-patients	Lunch only	200
Approximate number served from main kitchen		2,188
Served from kitchen in Nurses' Home		500
Served from private patients' kitchen		143
Served from staff kitchen		127
Served from kitchen in Psychiatric Building		111
Approximate number served from other kitchens		881
Approximate total number served		3,069

Supply and Storage. All food supplies enter at the first floor level through the service yard on 71st Street, whence they are conveyed by spiral chute and elevators to the sub-basement storage rooms. From these food is supplied to the kitchens by means of electrically driven trucks and elevators.

The main kitchen, being located entirely underground, is a noteworthy feature of this group and indicates a new trend in the planning of hospitals. This arrangement has the special advantages of better control of loss by theft, elimination of odors by ventilating ducts exhausted on the roof, and complete absence of noise to the rest of the hospital.

Ward Patients' Food Service. Food trucks with insulated hot and cold compartments convey bulk food from the main kitchen to the pantries on each ward floor, where the food is reheated. The system is flexible and allows the patients to be fed directly at the bedside either on trays or from the heated food trucks. This, rather than a centralized tray service, is used for ward patients, because of the number of patients to be served and the distance the food has to be carried.

Private Patients' Food Service. Here centralized tray service is used because of a smaller number of patients in a smaller area. Their trays are set up in the general food service room off their special kitchen on the 14th floor of the Main Hospital, and sent to the pantry rooms on the two floors below and three floors above, by means of two heated food trayveyors. An unusual feature of this trayveyor apparatus provides for the stopping of trays at the different floors by means of a light beam across the shaft at each station. This being intercepted by the trays as they reach the receiving station automatically stops the motor. The photo-electric eye at each station, which is acted upon by the light beam and causes the motor to turn on or off, is controlled from the central station so that trays may be sent to any floor without being interfered with by persons on the other floors. A red light located over each shaft opening indicates that a tray is approaching.

Kitchen Equipment. The main kitchen has ten sections of insulated closed-top gas ranges, with concealed manifolds and flush front construction, the ranges being placed in two batteries forming a duplex arrangement. In the middle of the room, located symmetrically on the center of the kitchen with the ranges, are the copper tin-lined stock kettles varying in size from 40 to 60 gals. each, and the vegetable steamers arranged in two batteries. Between the batteries is a 4 ft. high terra cotta wall faced with tile, to receive the supply and return steam pipes, hot and cold water, and waste and vent pipes, thereby avoiding unsightly piping around the kettles. The cast iron vegetable steamers each have four compartments that can be opened separately and have automatic valves to shut off steam when doors are opened. The tile flooring under the batteries of kettles and steamers is depressed 1½ in. and drained to prevent a wet floor in front of the apparatus.

Laundry Plant. Since daily turnover here is about 24,000 lbs. dry weight, representing some 47,000 pieces, the apparatus is specially arranged to save as much as possible in time, labor, and torn linen. On the floor above the washing machines, the linen is classified and placed in hoppers which feed directly into the machines, thus eliminating much of the usual handling. Also, when washing is finished, the machines discharge their loads directly into aluminum baskets that travel by overhead trolleys and fit into the centrifugal extractors or dryers. These reduce moisture in the linen to 50 per cent of its weight, preparing most of the articles for ironing on the next floor below, where the linen is finally placed in a stock room awaiting requisition.

THE EDITOR'S FORUM

BUILDINGS NEEDED

IN SPITE of present conditions, there is now a great opportunity for the loosely knit building industry to do a very constructive work for itself. By rising to this opportunity it can accomplish three things: (1) establish its rightful importance in the eyes of the public; (2) prepare its own program for a logical and acceptable resumption of building activity; (3) become more integrated and efficient, through cooperation, for the carrying out of its program as conditions warrant.

The lull in construction naturally means enforced leisure for many of those who design and construct buildings, and indirectly for many who manufacture and distribute building materials. This time of inactivity might well be put to valuable use in the interest of the industry. It seems strange that the time is spent so largely in bemoaning conditions and in wishful thinking about Utopias. Not all of the time is wasted, however, for there are able minds in the various branches of the industry attacking the basic problems of economic and social readjustment which it may be necessary to make before there can be a real recovery. But one of the most obvious and most constructive uses of leisure seems to have been forgotten. In times of idleness prepare for activity.

In the past the architect has usually awaited his client's wishes, whether owner, promoter or speculator, and has designed the kind of a building the "owner" thought he wanted. The architect became a party to the late hit-and-miss over-building program for he never stopped to think of the actual social or economic need for the building he designed. There is, as yet, no required "Certificate of Necessity" for buildings.

It seems probable, however, that such new buildings as will be erected during the next five years will be those found by analysis to be the most needed. Therefore it would seem obvious that architects might best employ some time in organizing an analytical survey of needed buildings. It is an opportunity for architects to prove, by inaugurating this survey and obtaining the cooperation of real estate, financial and other interests, that they have at least a capacity for leadership in the building industry. Such a survey would do more to stimulate building activity than any other program which has yet been presented. It could be made by capable individuals under emergency relief committees.

The investigation would naturally incorporate an inventory of present buildings and their condition, both physical and functional, as an index of the needs of the immediate future. All types of buildings would be included in this survey, from housing to governmental or monumental buildings. Naturally it should be carried on locally in each community. The needed modernizing and remodeling, or changes required to put existing buildings to new uses, would be an important item for study.

With the facts and findings properly publicized in the local papers, the public can be made to realize not only the need for building but the possibility of using a well-developed construction program as the logical adjunct to relief measures.

The local organization of architects or the chapter of the A.I.A. should take steps to inaugurate the survey. The cooperation of all the factors in building should be sought, after a method of procedure has been established by the architects. The city planning board, the city planning experts, the real estate organization, the city administration, the school board, the chamber of commerce and many other civic bodies should be urged to cooperate.

A preliminary report of needed buildings can be compiled from contacts with many existing agencies. The need, as they enumerate it, can be analyzed and verified. The city departments can outline their needs and desires; the social welfare organizations and the charitable institutions can point out many of the most pressing needs, and can outline public works which will yield dividends in the health and morale of the community.

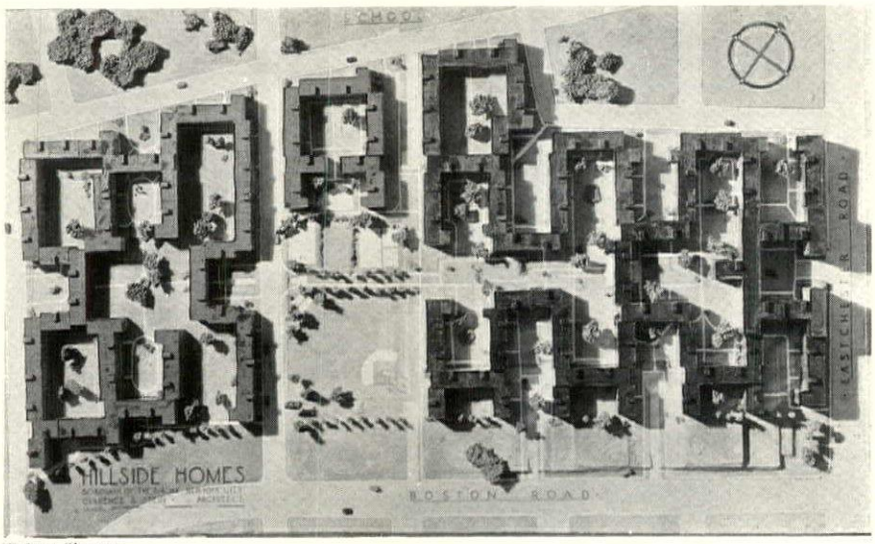
Any number of other sources suggest themselves. The coordination of these lists of needs into a plan for community building would constitute a distinct contribution toward an orderly, planned recovery. Of course such a plan must be judged in relation to any city, regional or community plan which may be in existence. If none has been made, a logical development of the survey should be the preparation of such a comprehensive plan for future development. Boston has made an impressive start in its survey of use and occupancy, under the direction of William Stanley Parker. Cleveland is now conducting its "inventory" and occupancy-vacancy survey under Dr. Green. Philadelphia has investigated its housing situation.

It would seem that the survey should be a logical major activity for the A.I.A. and its affiliated organizations. It is a direct challenge to the profession which aspires to leadership in the building industry. The Survey of Buildings Needed is the next logical step toward the rehabilitation of the building industry.

Kenneth K. Stowell

Editor.

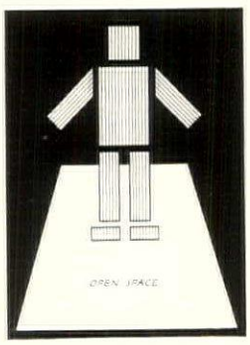
A COMPARISON OF TWO WAYS



Palmer Shannon

HILLSIDE HOUSING DEVELOPMENT

Project approved by the R.F.C. and the New York State Housing Board.



Above, photograph of the model of the complete Hillside Housing Development, showing openness of courts and playground. Clarence S. Stein, architect. At left, diagram showing 90 sq. ft. of open, sunny garden per person

POPULATION: About 5,000 people.

NUMBER OF ROOMS: About 5,500.

AREA (excluding streets): 696,000 sq. ft.

AREA COVERED BY BUILDINGS: 34 per cent.

OPEN SPACE: 460,000 sq. ft.

PARK AND GARDEN SPACE: 460,000 sq. ft.

WIDTH OF COURTS: 78 to 108 ft.

HEIGHT OF BUILDINGS: Mostly 4 stories.

SUN AND LIGHT: All interior space permanently light and sunny.

AIR: All rooms have cross-ventilation. Circulation of air from wide open courts.

OUTLOOK: All rooms look out on quiet green parks, 80 ft. by 100 to 400 ft.

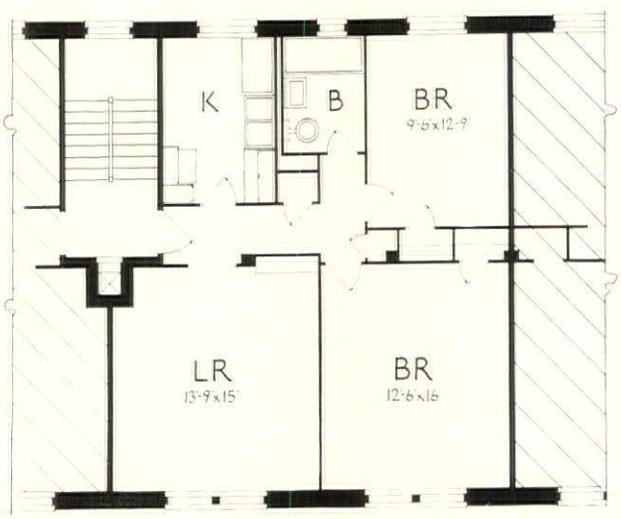
SAFETY: Complete safety from traffic dangers. Any child can walk from home to school, playspace or shops without crossing a traffic street.

RECREATION SPACE: 350,000 sq. ft. of quiet green park, landscaped walks.
Two and one-half acre playground.
Community social rooms.

TYPICAL APARTMENT:

SPACE: 4 rooms, average 150 sq. ft. per room, equals 600 sq. ft. of net living space (excluding corridor and bath).

RENTAL: $44 per month (7½ cents per sq. ft. of net living space).



Plan of typical apartment showing every room an outside room because of the 80 ft. park space between buildings

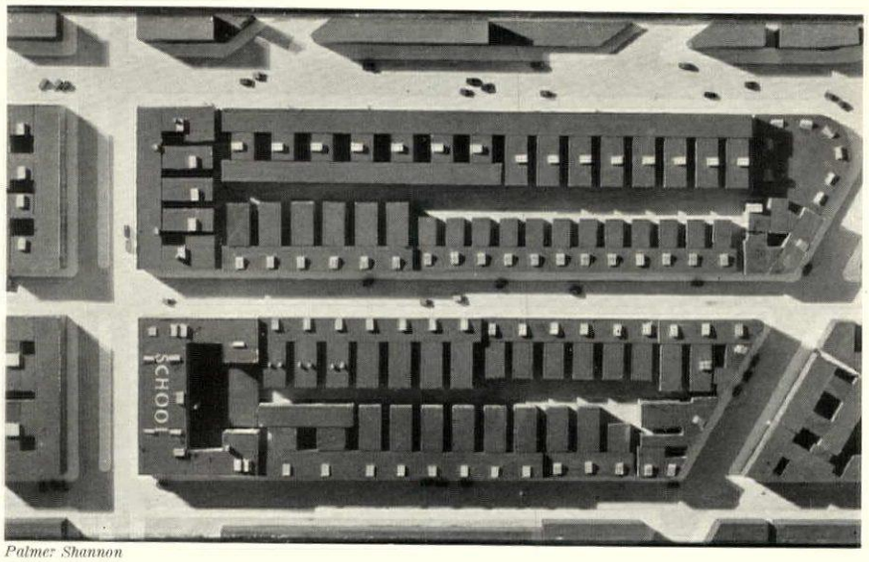
OF HOUSING 5,000 PEOPLE

TYPICAL

NEW YORK

TENEMENTS

Characteristic of the larger part of housing in the Bronx.



Palmer Shannon

POPULATION: About 5,000 people.

NUMBER OF ROOMS: About 6,000.

AREA (excluding streets): 324,000 sq. ft.

AREA COVERED BY BUILDINGS: 70 per cent plus.

OPEN SPACE: About 97,000 sq. ft.

PARK AND GARDEN SPACE: None.

WIDTH OF COURTS: 8 to 12 ft.

HEIGHT OF BUILDINGS: Mostly 5 stories.

SUN AND LIGHT: Most rooms need artificial light all day long.

AIR: No cross-ventilation. Dead air from narrow courts.

OUTLOOK: Rooms look out on noisy traffic street, *or* wall 8 to 12 ft. away, *or* dreary back-yard.

SAFETY: No safety from traffic dangers.

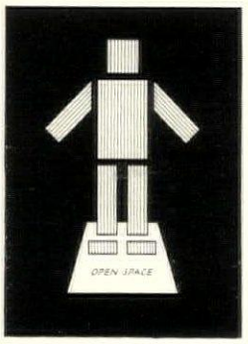
RECREATION SPACE: Street pavement.

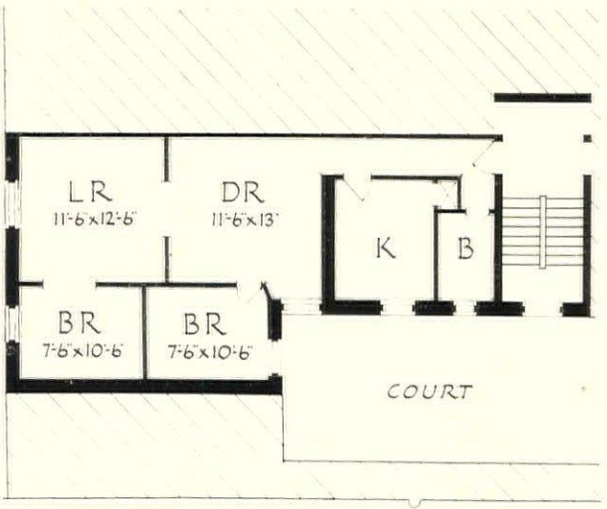
TYPICAL APARTMENT:

SPACE: 5 rooms, average 100 sq. ft. per room, equals 500 sq. ft. of net living space (excluding corridor and bath).

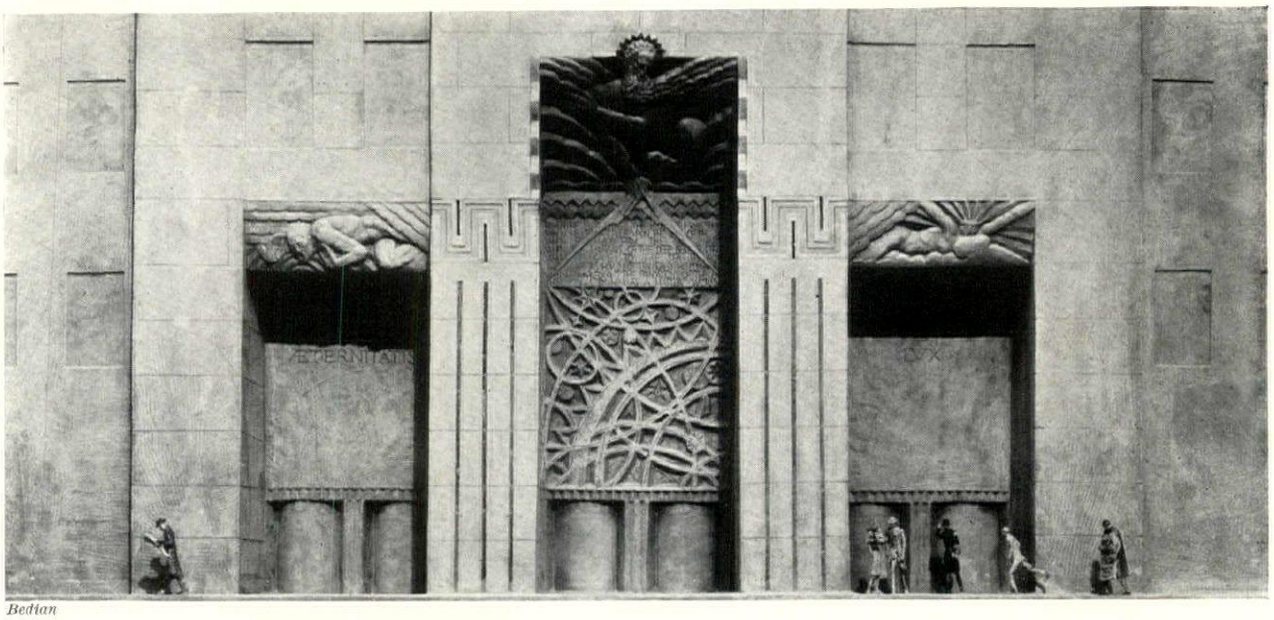
RENTAL: $45 per month (9 cents per sq. ft. of net living space).

Above, photograph of a model of typical Bronx tenements with dark, narrow, slit courts and well-like air shafts. At right, diagram showing 20 sq. ft. of dark, paved court per person





Plan of typical present-day Bronx apartments, inconvenient in plan, with most of the rooms facing on walls only a few feet away



Bedian

Model of RCA Building entrance, sculptured by Lee Lawrie

THE STORY OF ROCKEFELLER CENTER

XI. THE ALLIED ARTS

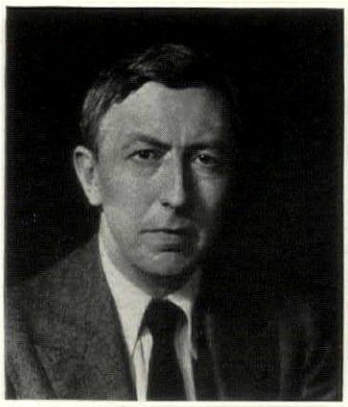
BY EUGENE CLUTE

THE work of enriching the buildings of Rockefeller Center with beautiful and significant sculpture and mural designs and with fine craftsmanship in metals, mosaic, glass and other materials is nearing completion under the direction of the architects, Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux.

Among the important decorative units is the sculptural treatment by Lee Lawrie for the main entrance to the 70-story RCA Building which faces the sunken plaza that is central to the development.

The entrance consists of a broad recess or loggia, 55 ft. wide by 12 or 14 ft. deep, divided into three sections by two massive rectangular piers. The middle section will be about 37 ft. in height by 14 ft. in width, and each of the flanking sections will be about 27 ft. high and 13 ft. wide.

Filling the upper part of the central opening, carved in high relief and sloping down and back to the rear wall of the recess, will be a figure of Wisdom, above conventionalized cloud forms. Carved on the lintels of the flanking openings, receding slightly downward and inward will be, at the right, "Light," and, at the left, "Sound," represented by figures among cloud forms. The enriched wall below them will be of a material that is only beginning to be used for walls — cast glass. The wall will be 55 ft. long, 15 ft. high, molded in relief after the sculptor's models. It will be built up of rectangular blocks of uniform size, 19 x 29 x 3 in., firmly united by a transparent glass cement, filling the



Lee Lawrie



Gaston Lachaise





Eckman Photos

Sculptured groups for RCA Building by Gaston Lachaise

joints between the glass blocks and making the wall virtually a single piece of glass from side to side and from top to bottom. It will be reinforced from the inner side by metal to withstand wind pressure.

In its design flutes and V-shaped ribs, some curved, others straight, predominate, and these will throw the outdoor light into the grand foyer beyond. The upper surfaces of the ribs will direct the light toward the rear of the space and downward, while the lower surfaces will convey the light reflected from the pavement in front of the building to the ceiling within. This is a practical, as well as an artistic innovation, replacing the usual metal grille, which inevitably obstructs more or less light.

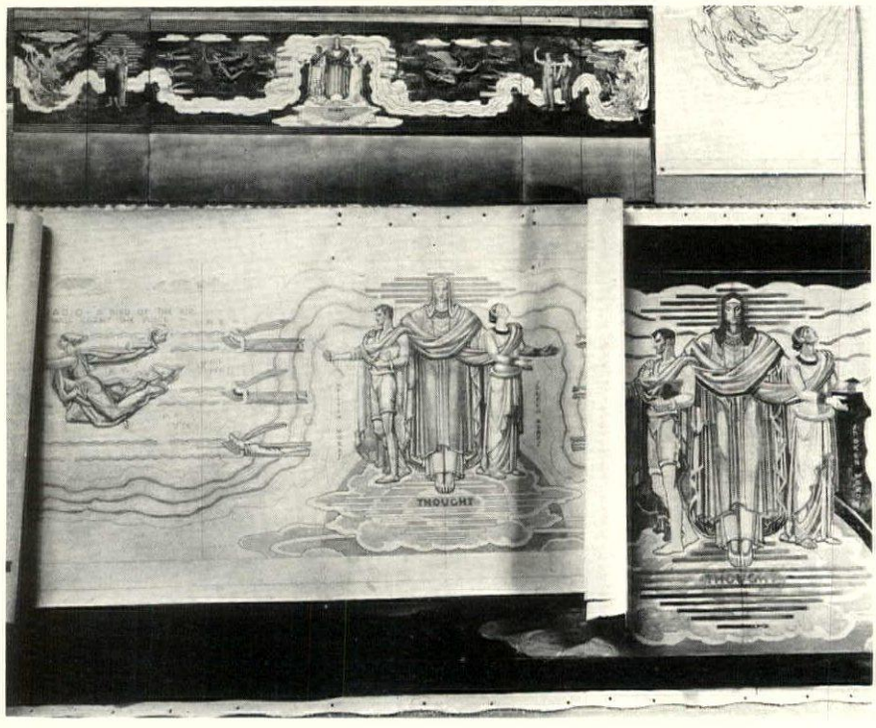
The western entrance to the RCA Building upon Sixth Avenue will be through a loggia, above which will be spaced upon the exterior wall four symbolical panels carved in bold relief, of which Gaston Lachaise is the sculptor. Within this loggia the walls will be covered with a glass mosaic mural decoration by Barry Faulkner. This decoration will be executed by Ravenna Mosaics, Inc.

The sculptures by Lachaise will stand as focal points upon the great plain surface of this front of the building and are of suitably robust modeling for their place.

A small setback in the surface occurring about one-third of the way from the top of these panels presented a special difficulty which the artist has turned into an opportunity by taking advantage of the possibility it affords to design his panels in two main vertical planes, instead of the single main plane to which architectural sculpture is usually confined. This has permitted him to obtain full, deep modeling in the more important upper part of the heroic central figure of each panel, which is retired slightly back of the smaller flanking figures.

Barry Faulkner's glass mosaic mural will be nearly 80 ft. in length and 14 ft. in height, extending around three sides, from above the row of doors to the ceiling. This space is not rectangular in plan, the inner corners being clipped by sections of wall at an angle. The longest section of the decoration, on the back wall of the loggia, will be 46 ft. 8 in. wide by 14 ft. high; the angular portions each 7 ft. 8 in. by 14 ft. and the ends at right angles to the street each 8 ft. 9 in. by 14 ft. The piers between will be of polished granite of a warm gray color.





Eckman Photos

Barry Faulkner at work on cartoon for glass mosaic, left, and above, section of the completed cartoon

The design for the mural has been carefully studied with these conditions in mind. The central group of figures will be framed in the middle opening, the large flying figures at either side being centers of interest for the side openings. Each of the end walls will be well covered by a composition satisfying in itself and at the same time an integral part of the whole decoration.

The theme is "Thought Awakening Mankind." In the center, standing above the world, is the dominant figure representing "Thought," with figures of less stature on either hand as the two principal means of thought expression, the "Spoken Word" and "Written Word." A crimson scarf encircles the shoulders of "Thought" and is wrapped about the shoulders of the flanking figures, symbolizing their close relationship. At some distance to the right and left two flying figures, "Science," bearing an electric lamp, and "Art," bearing a lyre, represent the two great divisions of thought. Around these are smaller flying figures, all emanations of thought. The background is a deep blue against which the design stands out strongly in softly luminous colors. The current of thought

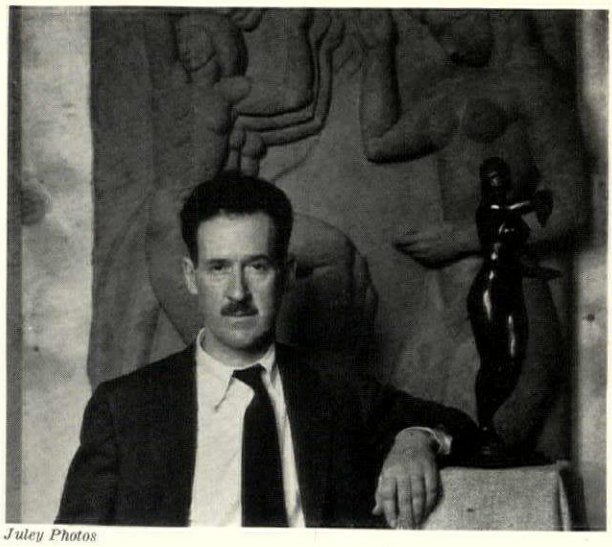
Left to right, below, Robert Garrison directing work on sculpture for RKO Building, Mr. Garrison, one of the finished groups





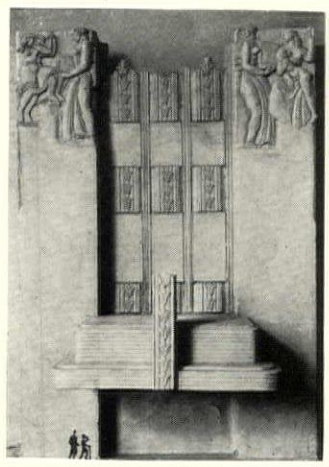






Juley Photos

Leo Friedlander directly above, and above to the left model for sculptures which crown the pylons of the RCA Building. At right, ½ in. scale model of entrance, for which the sculptures were designed



energy is pearly white with gold lines; the robes of "Thought" are light gray-blue, and the crimson scarf adds an element of power.

The sculptural treatment of the north and south entrances is in the hands of Leo Friedlander. These sculptures will crown the pylons at either side of the entrance. Each will be 9 ft. wide by 14 ft. 6 in. in height. The distance from the sidewalk to the base of the sculptures will be 34 ft.

The pair of reliefs at the north entrance will represent "Radio" and the pair at the south entrance "Television." In both instances the subject will be treated in two divisions on separate pylons, "Production" at the left and "Reception" at the right, with the gap between representing the space through which the transmission takes place. In this gap the conventionalized forms of natural growth upon the spandrels of the building suggest the intervening country. Their composition shows an extremely careful study of the complex problem presented by their relation to the architecture and the varying points of view from which they will be seen.

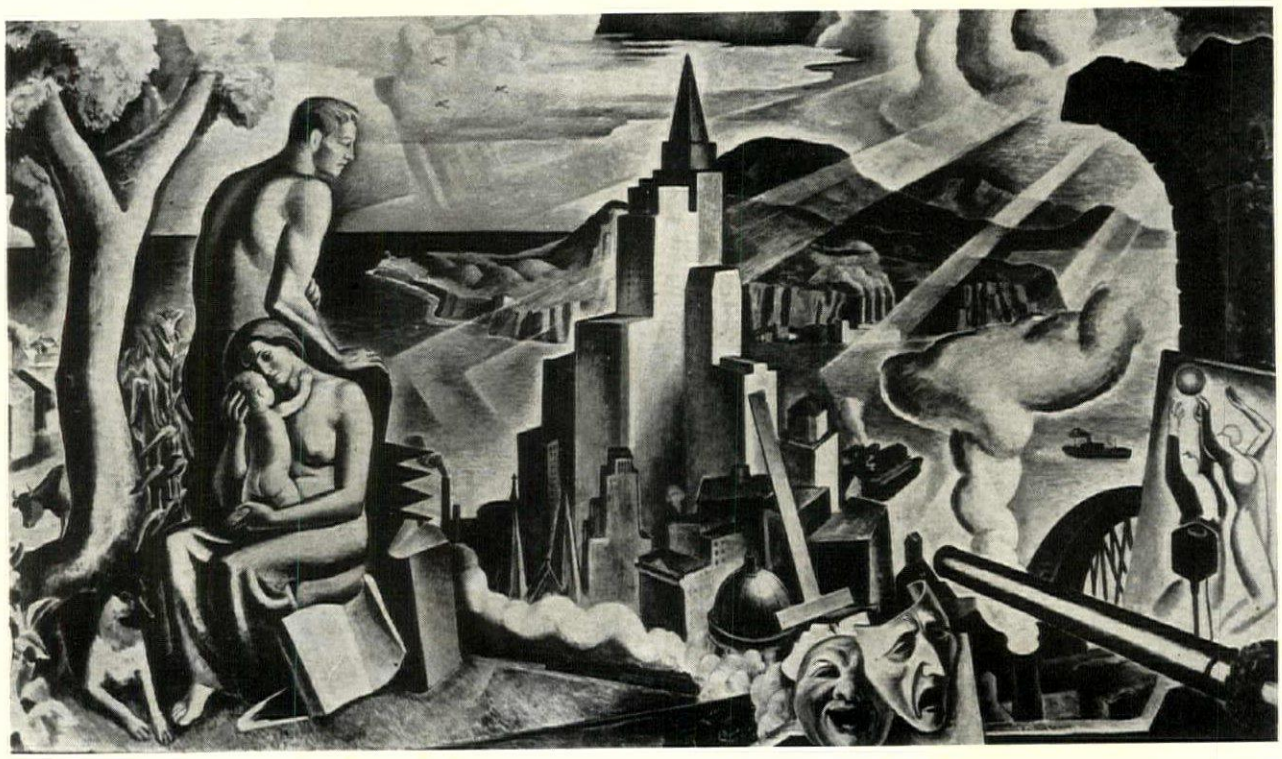
As people approach these entrances from either direction the sculptures will be seen in three-quarter view fully as often as directly. For this reason they have been so modeled that they are understandable from this angle. This has been facilitated by bringing portions of the reliefs forward beyond the faces of the pylons and by an openness of arrangement that provides interesting, well-studied voids in front view. The effects of possible distortion have been guarded against and allowance has been made for foreshortening.

That the sculpture is a part of the architecture has been kept clearly in mind, the sculptor having modeled the entire entrance at ½ in. scale in clay and studied the compositions for his reliefs first of all as architectural details. From the sketches modeled in this way he then developed the complete treatment of the sculptures.

Over the wide main portal of the RKO Building in the center of the Sixth Avenue front, Robert Garrison's large and monumental sculptural allegory has been carved in stone, embracing three panels, each 21 ft. wide by 9 ft. high. It symbolizes inspired radio, endless in its activity. In the central panel is seen a figure representing "Present-day Thought," holding the torch of knowledge and an electric bolt, suggesting the speed of radio transmission and the force that accomplishes it. Here also is the symbol of "Inspiration," the winged horse Pegasus.

In the panels at the right and left, respectively, are flying female figures representing "Morning" and "Evening," the former with an eagle, the latter with a heron.

A static arrangement of standing figures, forming a band above the entrance, might easily have suggested itself as the conventional thing to do. Granite piers projecting somewhat from the face of the wall, however, divide the space into three panels, and it was seen that by composing the two end panels with a rising gesture carried through by the lines of the central panel, an arch could be suggested, spanning



Boardman Robinson's mural in the lobby of the RKO Building

the entrance and binding together these units in a single composition. This is what the sculptor has done. The wings of the eagle and of the heron, together with the wings of Pegasus and the draperies of the figure in the central panel, are arranged on this basis. At the same time each of the three panels is a self-contained composition when viewed alone.

In the lobby of the RKO Building is a mural painting by Boardman Robinson. Its message is the predominant importance of man and his fundamental needs as compared with the machinery of material progress, which is important only in so far as it advances the well-being of humanity.

In this painting figures of a man, woman and child, of heroic scale, are grouped at the left with a dog, cow and vegetation. At their feet are books and instruments of precision. The center is occupied by a composite group of modern buildings rising above churches and secular buildings of an older day, all at a smaller scale, together with locomotives, automobiles and other products of the machine age — mere toys compared with the human beings. At the right is a ruined arch, in front of it a huge gun, flanked by two gigantic grotesque masks, and in the distance is the sea. This painting, with its dominant note of blue and its warm grays and buffs, stands out in the setting provided by the white marble walls of this lobby.



On the page opposite begins the second presentation of The International Section of The Architectural Forum. Inaugurated in the December issue with a portfolio devoted to Austrian architecture, the International Section is a regularly scheduled feature of every other issue, the next appearing in April. . . . Each issue of the section is devoted exclusively to the architecture of one country. To retain the architectural and national spirit of the countries represented, the Forum has initiated the publishing practice of having the contents designed, written, edited, and printed abroad. . . . Every architecturally significant nation will be included in this unusual presentation, giving to the profession in America an opportunity to study the best work of their foreign contemporaries.

THE ARCHITECTURAL FORUM
INTERNATIONAL SECTION

GERMANY



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STREET SCENE IN A SMALL GERMAN TOWN
(AUGSBURG ABOUT THE YEAR 1600)

MATHÄI CHURCH IN DÜSSELDORF
WACH AND ROSSKOTTEN · ARCHITECTS

ELEMENTARY SCHOOL IN HAMBURG
FRITZ SCHUMACHER · ARCHITECT

SCHUMANN THEATRE IN FRANKFURT
RUDOLF FRÄNKEL · ARCHITECT

PORTABLE HOUSES OF COPPER
PROF. WALTER GROPIUS · ARCHITECT

ZOLLVEREIN COLLIERY, ESSEN
SCHUPP AND KREMMER · ARCHITECTS

STREET SCENE IN A SMALL GERMAN TOWN
(AUGSBURG IN THE YEAR 1932)




AUGUSTA VINDELICORUM.
Augſpurg

TRANSITION IN GERMAN ARCHITECTURE

Within this decade German architecture has turned from gingerbread to plain cake. Traditional embellishments have been barred. Builders now follow the shortest line from concept through material to structure.

Flat roofs supercede the steep gables which since Mediaeval days have preserved the pitch originally imposed on them by thatch. Made practicable by the new industrial progress toward girders of adequate span, lathing of durable metal, and waterproofing as sure for level surfaces as for canted, they add an extra story to the dwelling, a living place demanded by the new German cult of sun worship.

Wall spaces no longer shun simplicity. Proportion rather than adornment is the aim. Timber and sheathing and sometimes even granite and stone have lost popularity, while in their place, to clothe the structure rather than to support it, "clinker" has reappeared, apotheosis of adobe. This renaissance of man's very oldest materials in his very newest buildings springs from architecture's conquest of the load. Since a steel frame bears the burden, designers can outfit their creations as they will. When occasion demands, they can make one vast glass window of the whole façade; conversely, they are not ashamed to leave entire walls blank and lightless.

Color they have in plenty, yet restraint — which governs indeed every aspect of a movement which might otherwise so easily get out of hand — limits their practice to the materials: in daylight the warm tones of earth-made clinker or the pastel shades of plaster tinted apple green, russet pink, a mellowed rose; at night the more strident hues of the neon, sometimes arranged so as to recreate shape and contour.

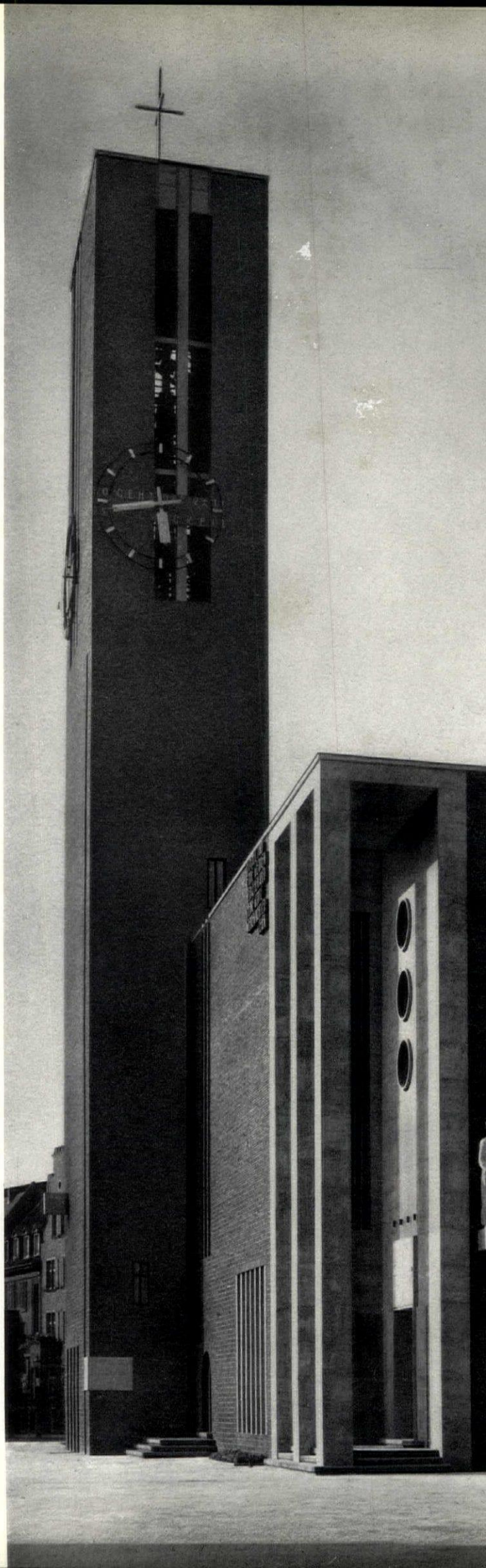
Such a contrast is shown on pages 1 and 16 of this section. The German town of Augsburg, the flamboyant merchant city of the Fuggers, contrasts in fresco, tower and corbel with the sunny, honest, modern manufacturing town.



MATHÄI CHURCH AT DÜSSELDORF

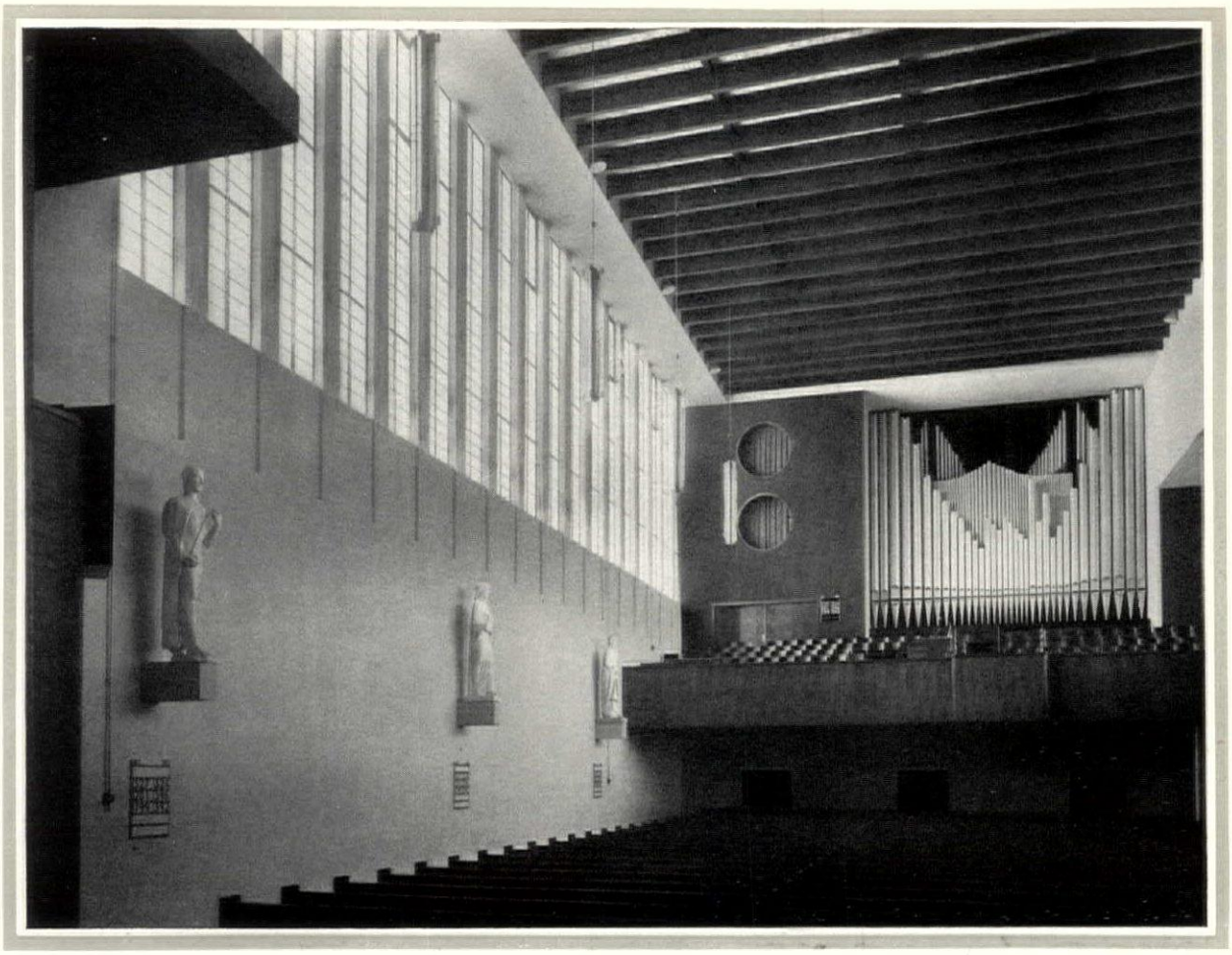
WACH AND ROSSKOTTEN ARCHITECTS

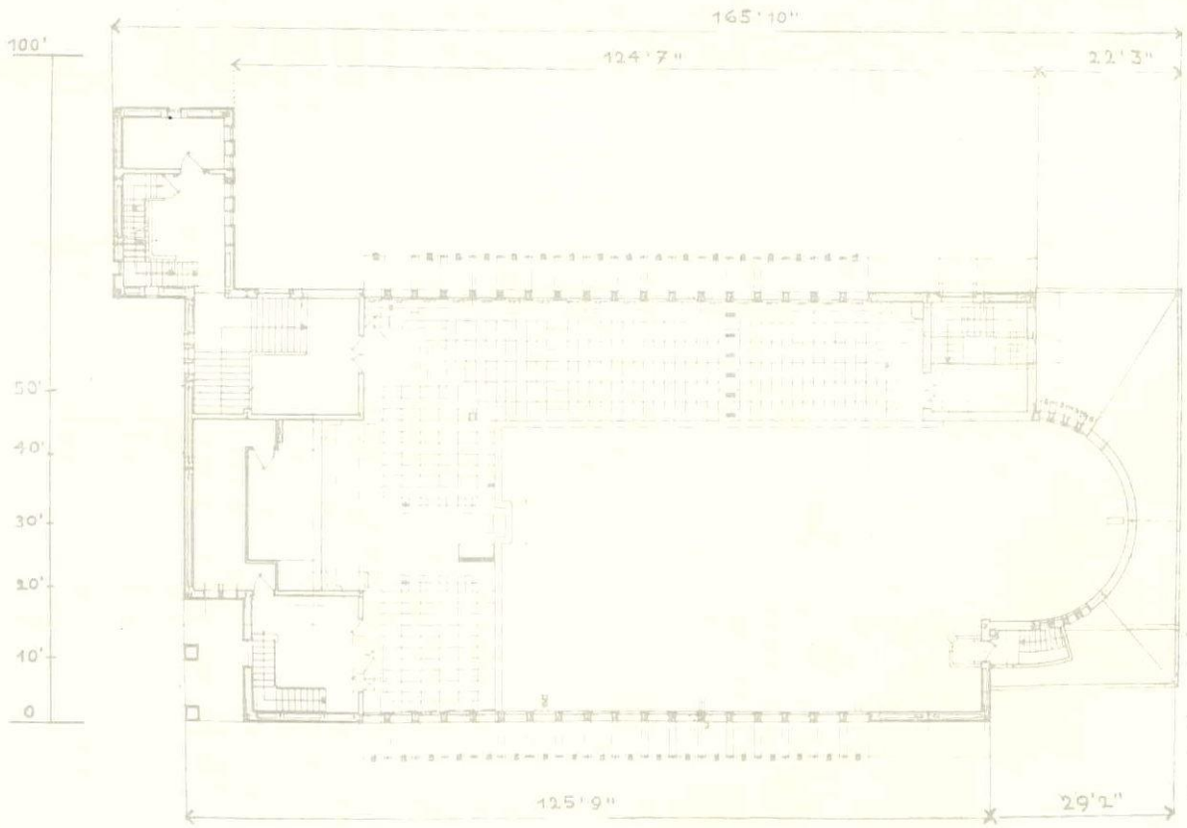
Commanding the intersection of three streets, the Mathäikirche overshadows the square with its lofty tower and serves as a landmark for the whole city of Düsseldorf. The church is a steel skeleton clothed in dark red clinker. The nave can seat 800 persons, the galleries 400. When more space is needed, the entrance-hall can be thrown into one with the main room.

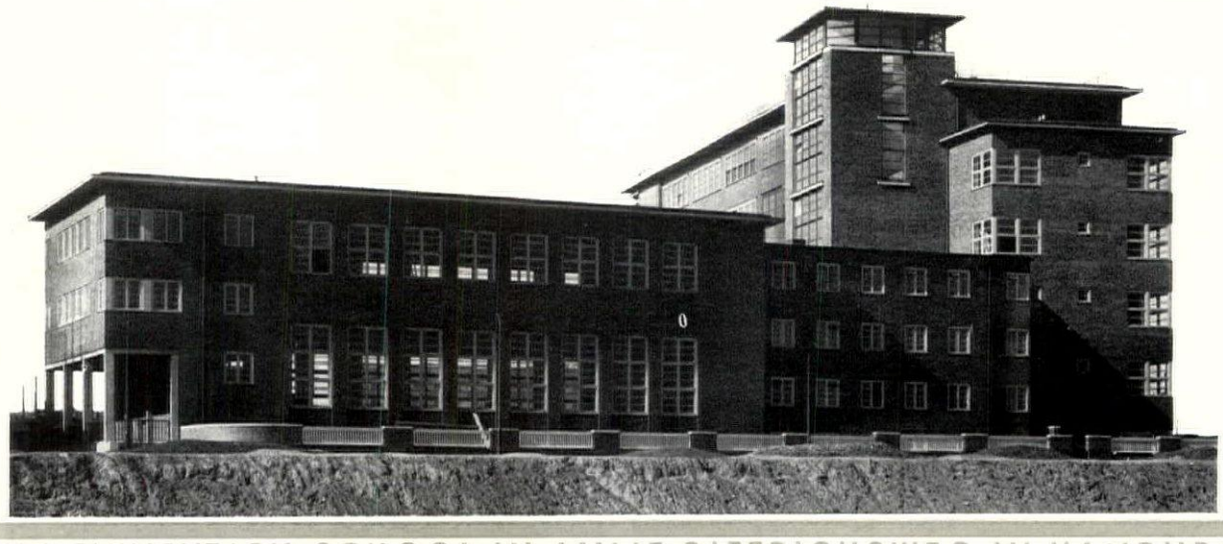




Finished in golden yellow Frankish limestone, the porch and the windows stand out against their sombre background of clinker. Similarly, while the interior depends for its effect upon unity of design and spaciousness, an architectural contrast has been worked out between the light wall spaces and the dark wooden panels and beams. The windows against which stands the altar are of stained glass.

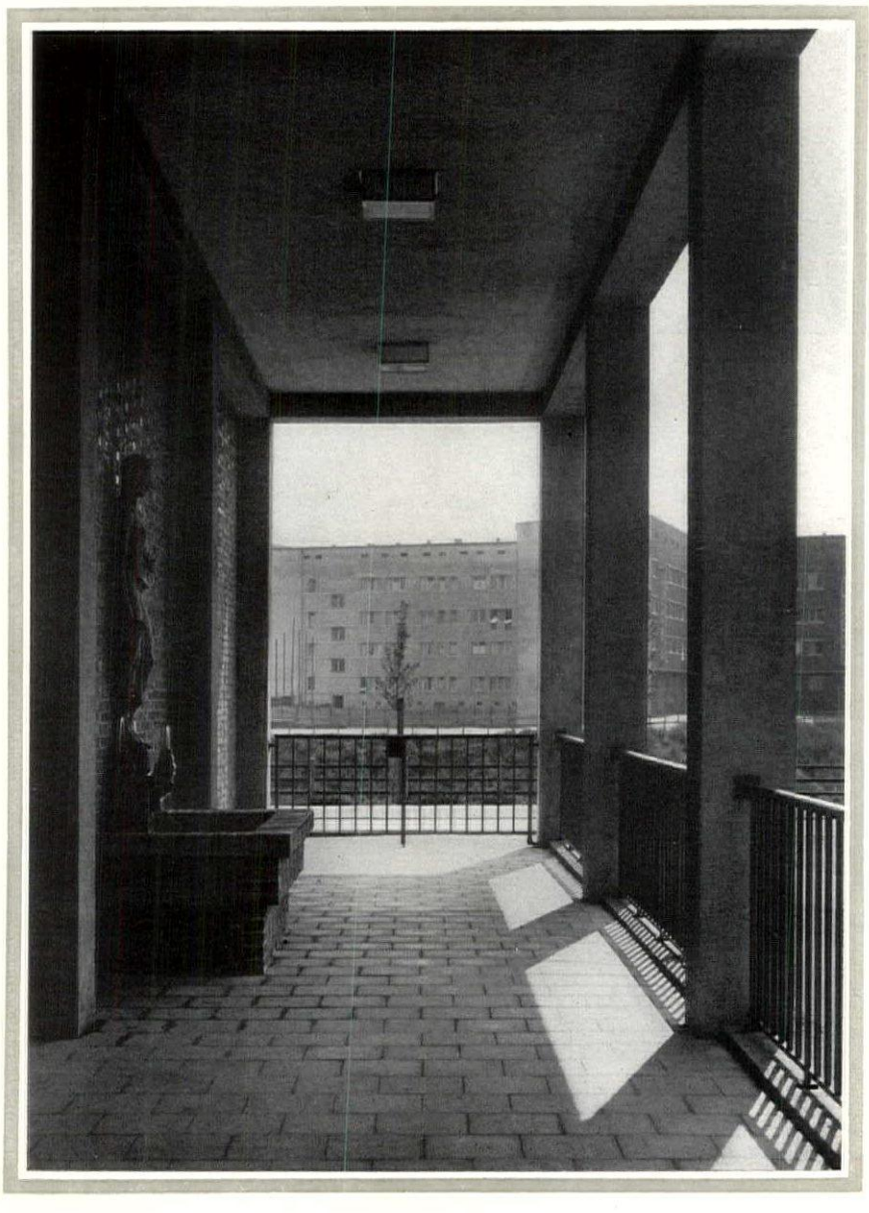



165'10"
124'7"
22'3"
100'
50'
40'
30'
20'
10'
0
125'9"
29'2"



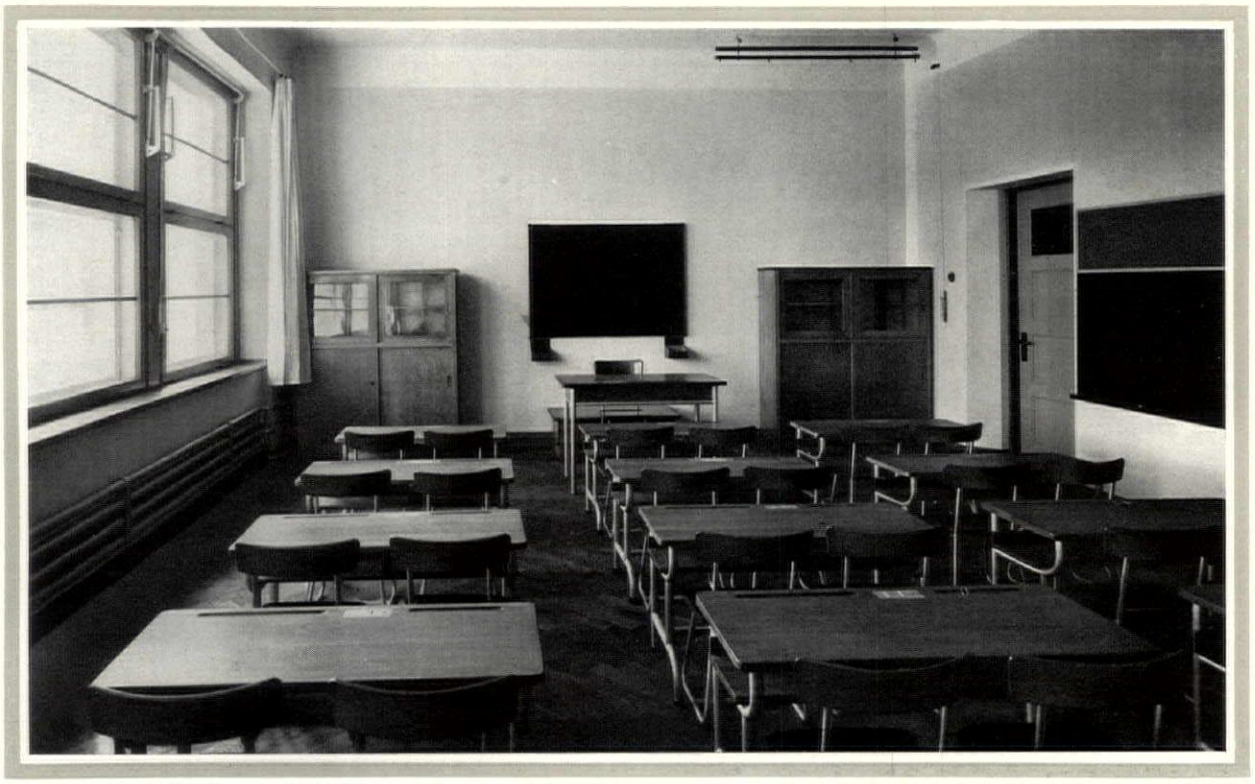
THE ELEMENTARY SCHOOL IN AMLIE-DIETRICHSWEG IN HAMBURG

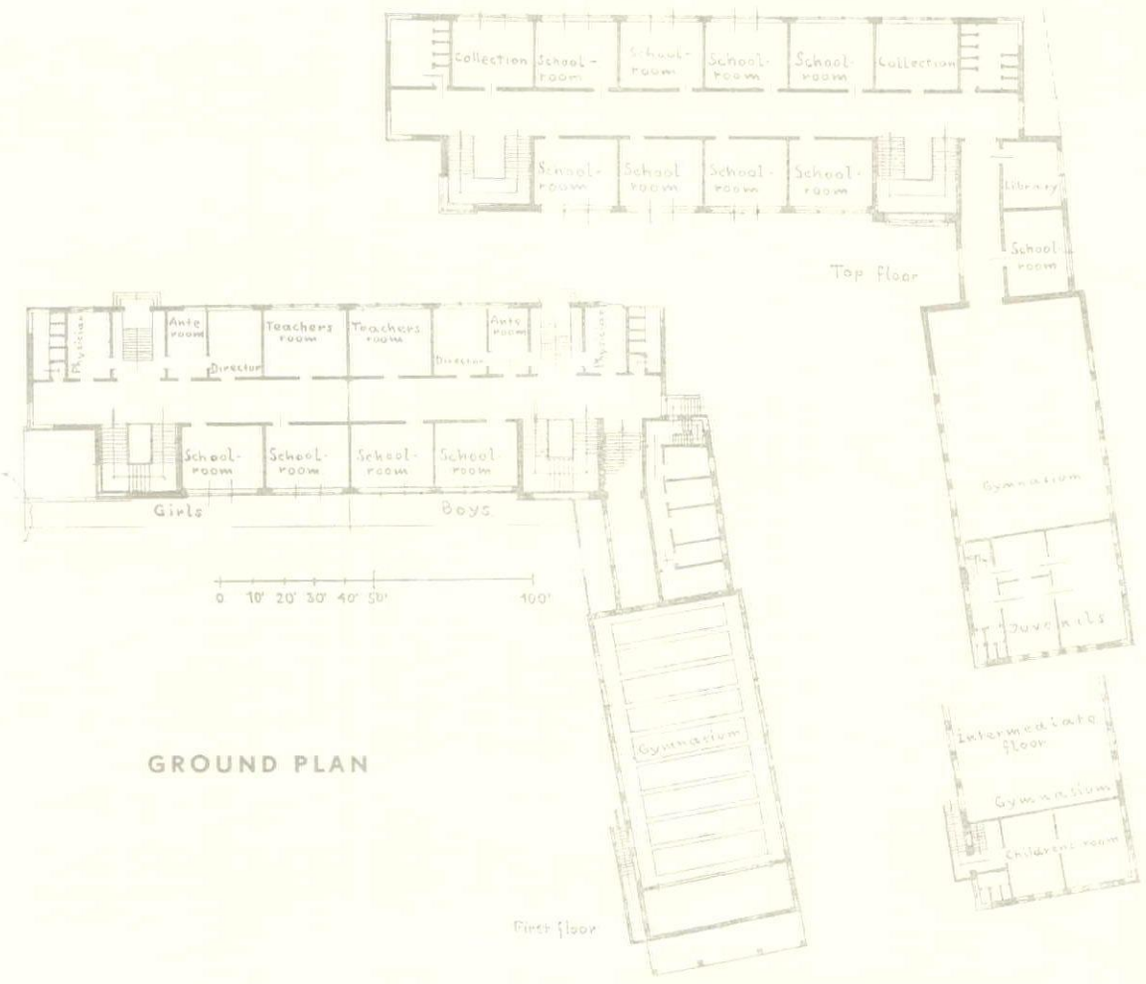
FRITZ SCHUMACHER, ARCHITECT



The school in Amlie-Dietrichsweg, a suburb of Hamburg, is a building five stories high accomodating thirty class rooms. The gymnasiums occupy a low wing built into the main structure at an angle. Passage to and fro is effected by a staircase enclosed in a tower the wall of which, facing the court yard, is entirely glassed in.

Like all modern Hamburg schools the Amlie-Dietrichsweg structure is of "clinker", which is a thrice-baked, rough-finished brick. It is organically a native product made of Elbe clay. Originating in the earliest days of the city, when the transportation of granite or lime stone from the interior was prohibitive, it has typified Hamburg architecture just as marble typifies that of Venice. Temporarily eclipsed in Victorian days, it is now renascent.



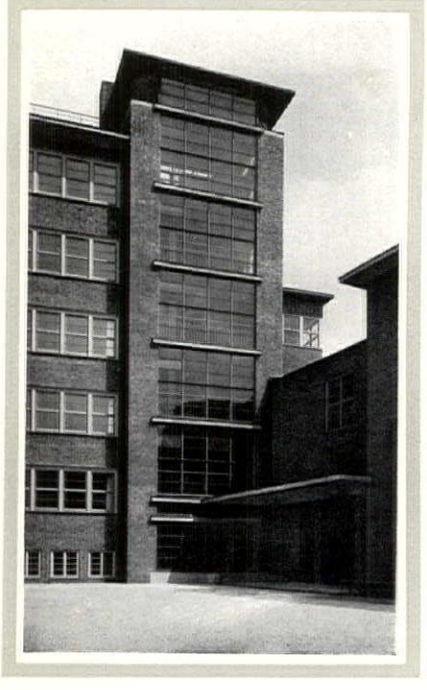

Collection
School-room
School-room
School-room
School-room
Collection
School-room
School-room
School-room
School-room
Library
School room
Top Floor
Gymnasium
Juveniles
Intermediate floor
Gymnasium
Children's room
Ante room
Teachers room
Teachers room
Ante room
Director
Director
School-room
School-room
School-room
School-room
Girls
Boys
0 10' 20' 30' 40' 50' 100'
Gymnasium
First floor

GROUND PLAN



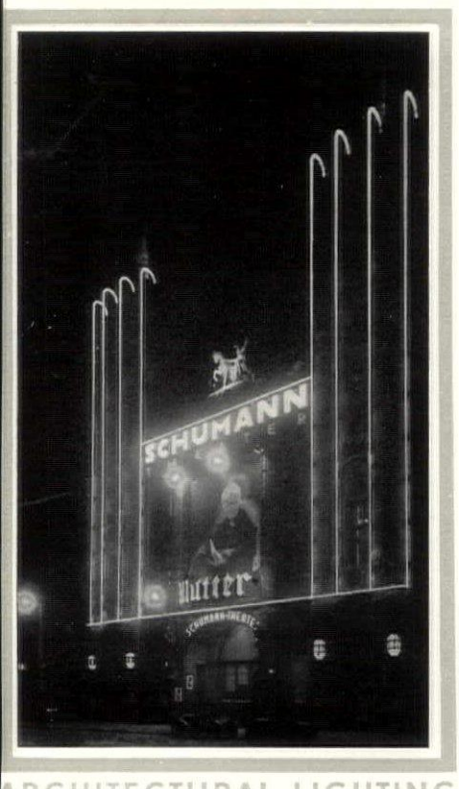
ASPECT OF STAIRCASE WITH RAILINGS AND LANDINGS

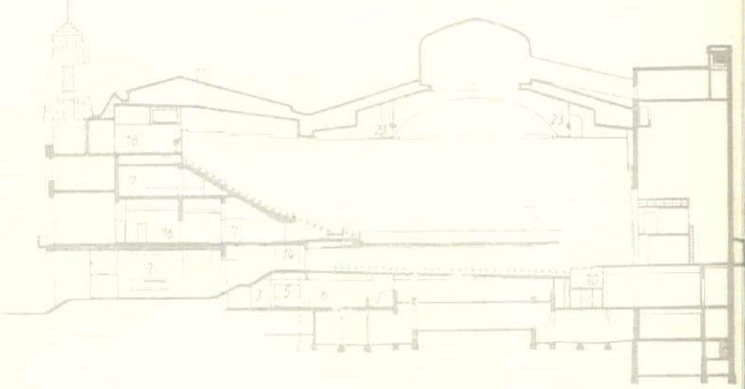
THE STAIRCASE

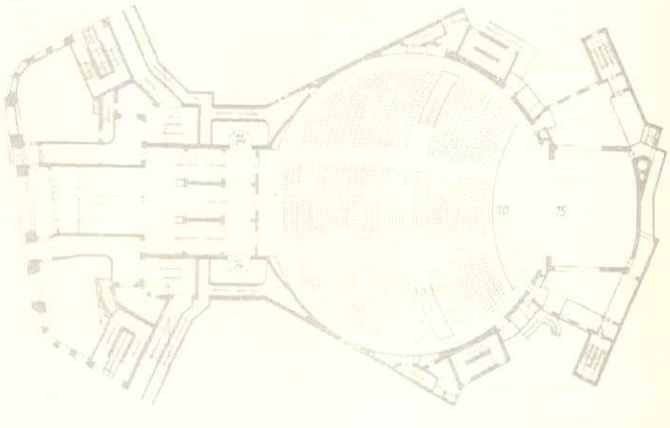


EXTERIOR VIEW

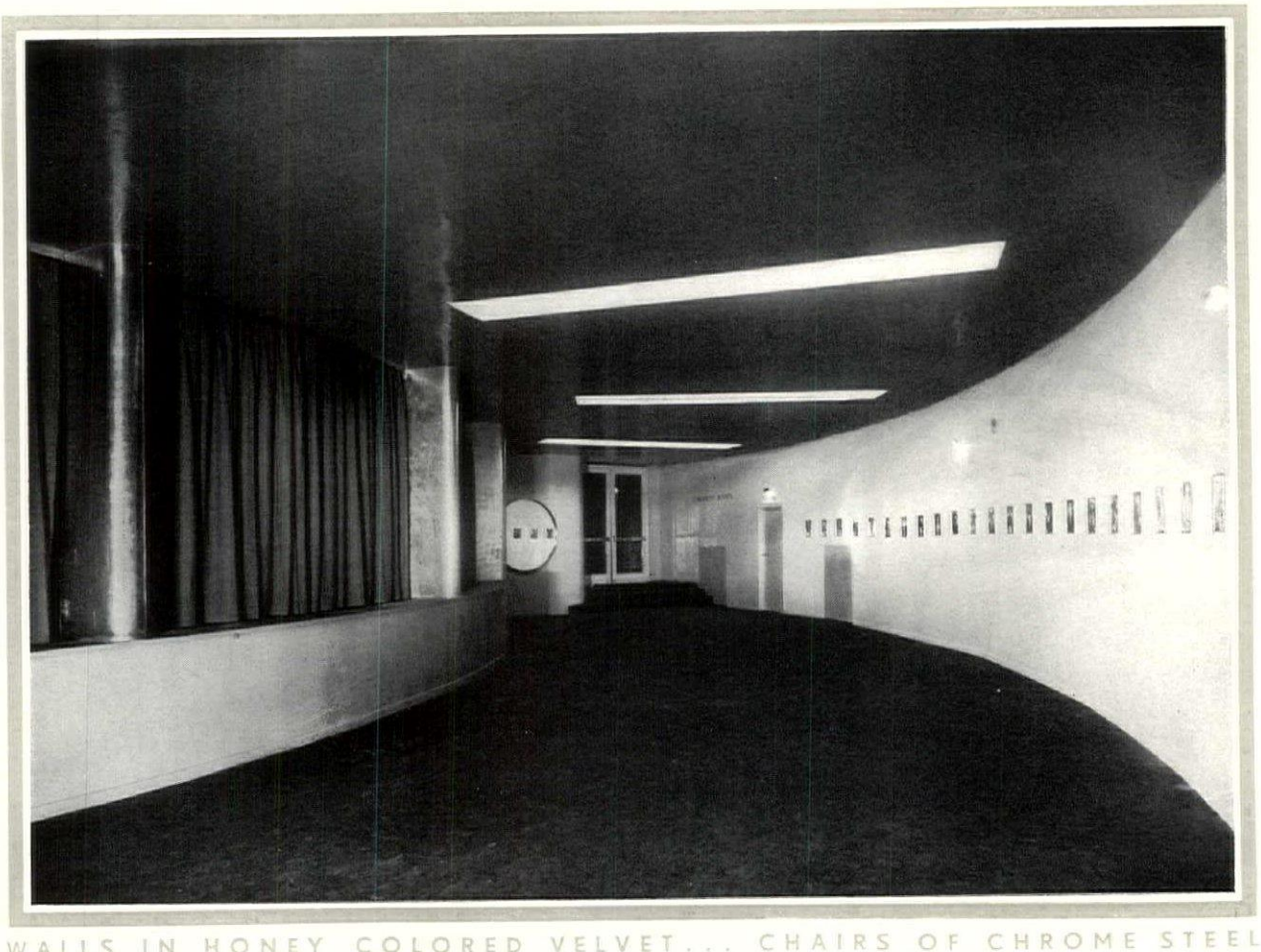
SCHUMANN THEATRE IN FRANKFURT ON MAIN · RUDOLF FRÄNKEL, ARCHITEC







ARCHITECTURAL LIGHTING

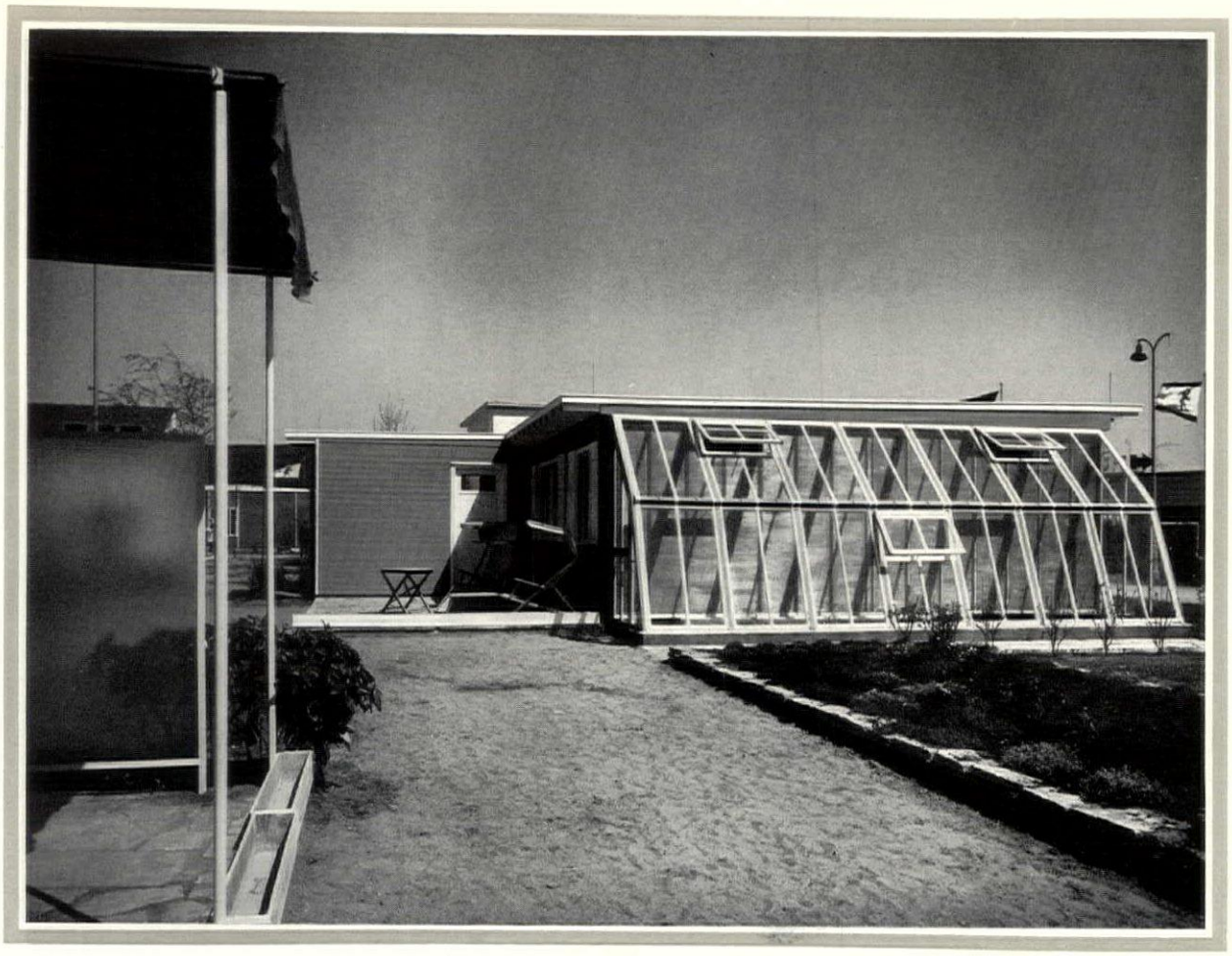


WALLS IN HONEY COLORED VELVET... CHAIRS OF CHROME STEEL UPHOLSTERED IN BLUE... CURTAINS OF DARKER BLUE... CEILING LIGHT GREY



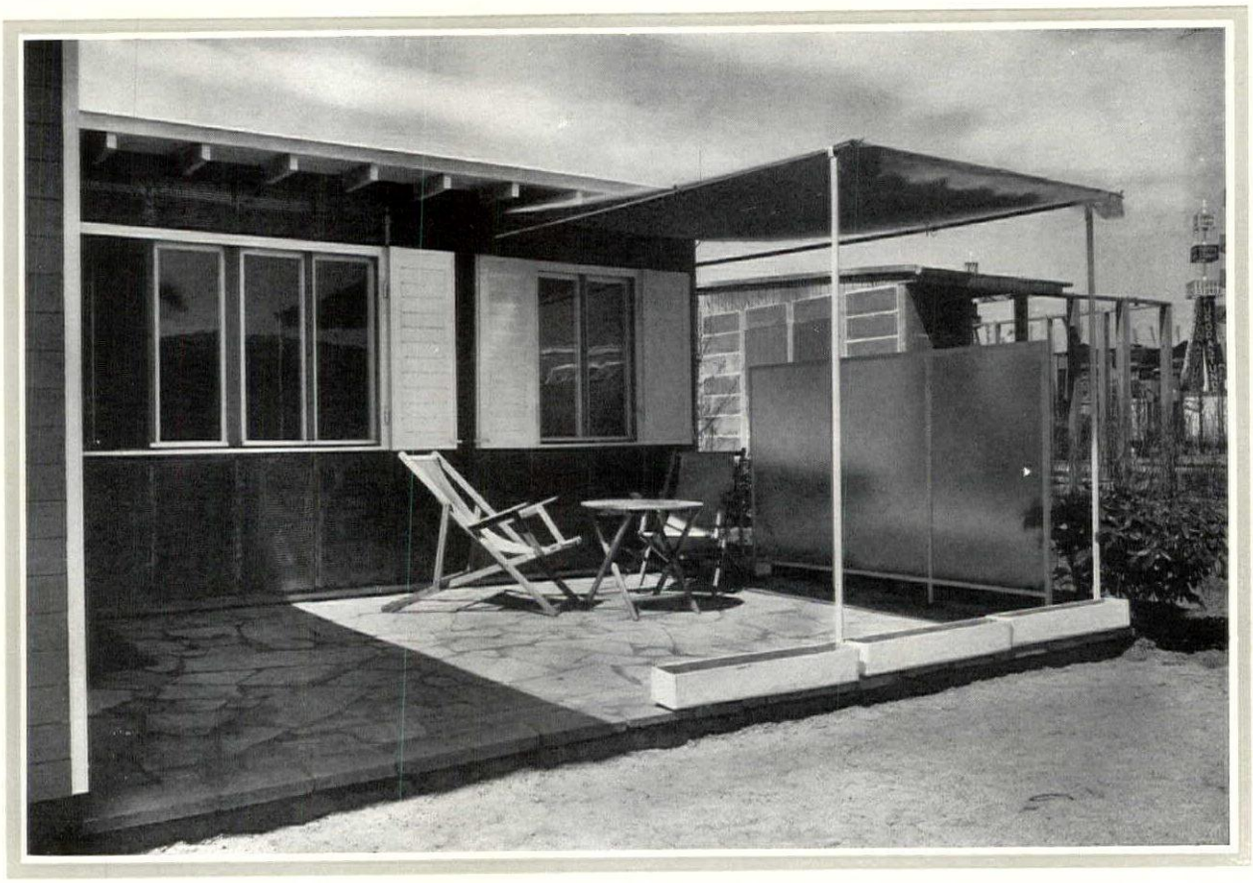
MULTICOLORED ILLUMINATION IN THE CUPOLA GIVES THE EFFECT OF STREAMING SUNLIGHT

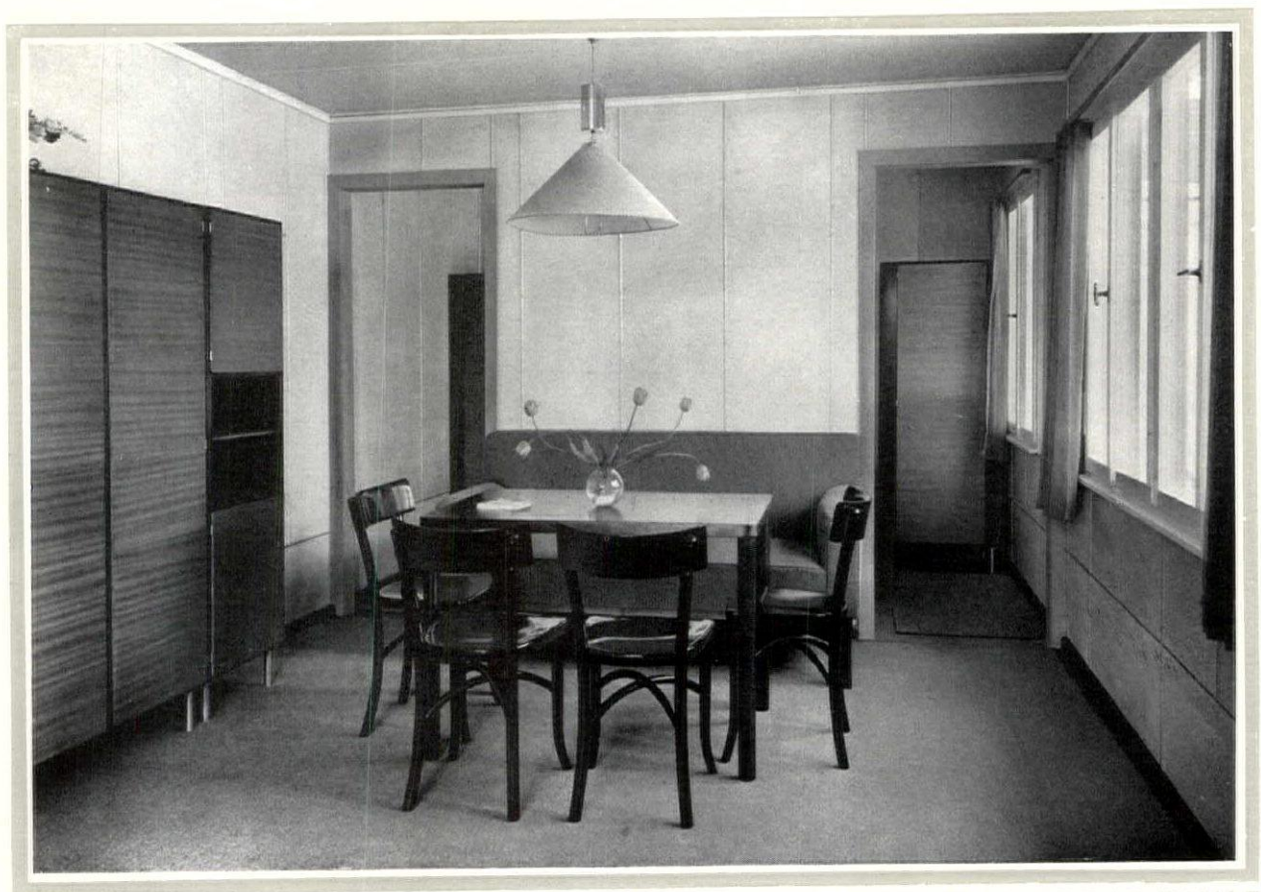
The theatre stands on a large, traffic-congested square in the City of Frankfurt. By reconstructing a huge old circus building, the architect has created one of the largest and most modern German theatres, suitable for revues, movies, vaudeville or circus performances. It seats 3000 persons in orchestra and gallery. The orchestra fills the site of the old ring. Columns which supported the original balcony have been removed and a corbel construction holds up a new gallery which swings deep into the theatre. In the basement, where the stables and the runway for the horses used to be, lobbies and cloak-rooms have been installed. The audience reaches the orchestra by staircases along either side. Blue lights play over the auditorium and strong projectors working behind narrow slits shoot down yellow beams. Light has transformed the original façade. Without altering the old details, the architect has simply screened them behind a modern arrangement of neons. 1968 feet of neon tubes completely change the façade of his building.



PORTABLE HOUSES OF COPPER
WALTER GROPIUS · ARCHITECT

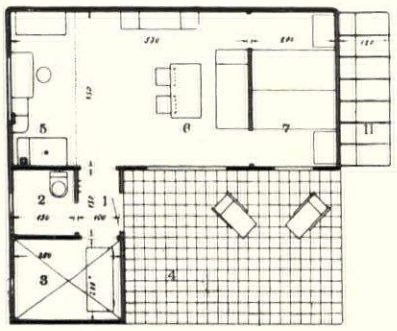
In 1932, among other portable houses shown at the Berlin exposition "Sun, Air and Dwelling for All", Professor Gropius first exhibited his all-copper house. It is designed as "a house which grows" and consists of walls which are manufactured in the workshop and which can be set up on the building plot in a very short time. The exterior walls are armored with corrugated copper sheets, one fiftieth of an inch (0,5 mm) thick. The inner surfaces are covered with strong, somewhat thicker (0,6 mm) rippled aluminium sheets. These plates are fastened to a wooden framework, which has been soaked in creosote before assembling. They are screwed on with angle irons or U irons. Experiments prove such a construction to be extraordinarily heatproof. Electric wires are built into the walls. Asbestos tubing does service for the chimneys.





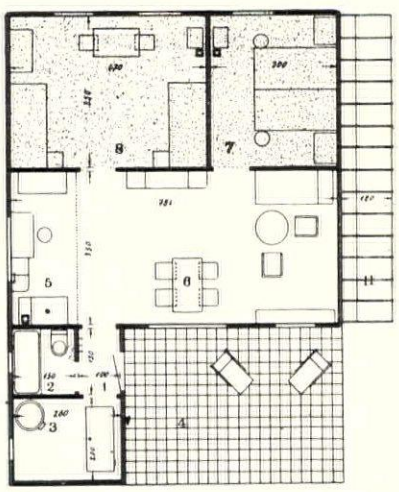
THE CELL OR UNIT AROUND WHICH THE GROWING HOUSE IS BUILT

In Germany the popularity of "the house which grows" is increasing. A dwelling which can remain in the family, expanding and accomodating itself to children, or to professional success, or to the exigencies of temperament, appeals to the practical nature of the Teuton. Professor Walter Gropius makes his copper house, therefore, in three models, the larger units being composed of additions built around and upon the smaller.



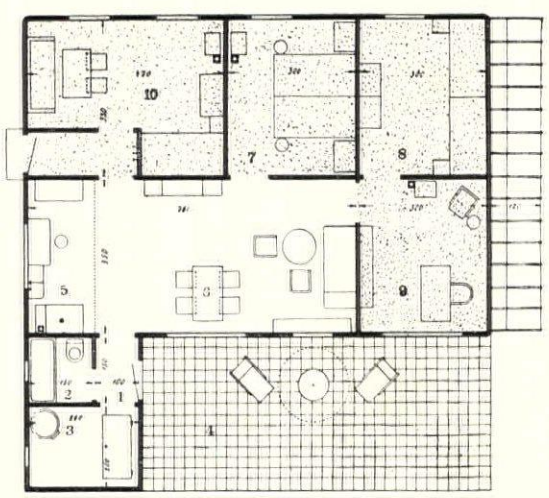
A

PRICE OF FIRST UNIT: 600 DOLLARS



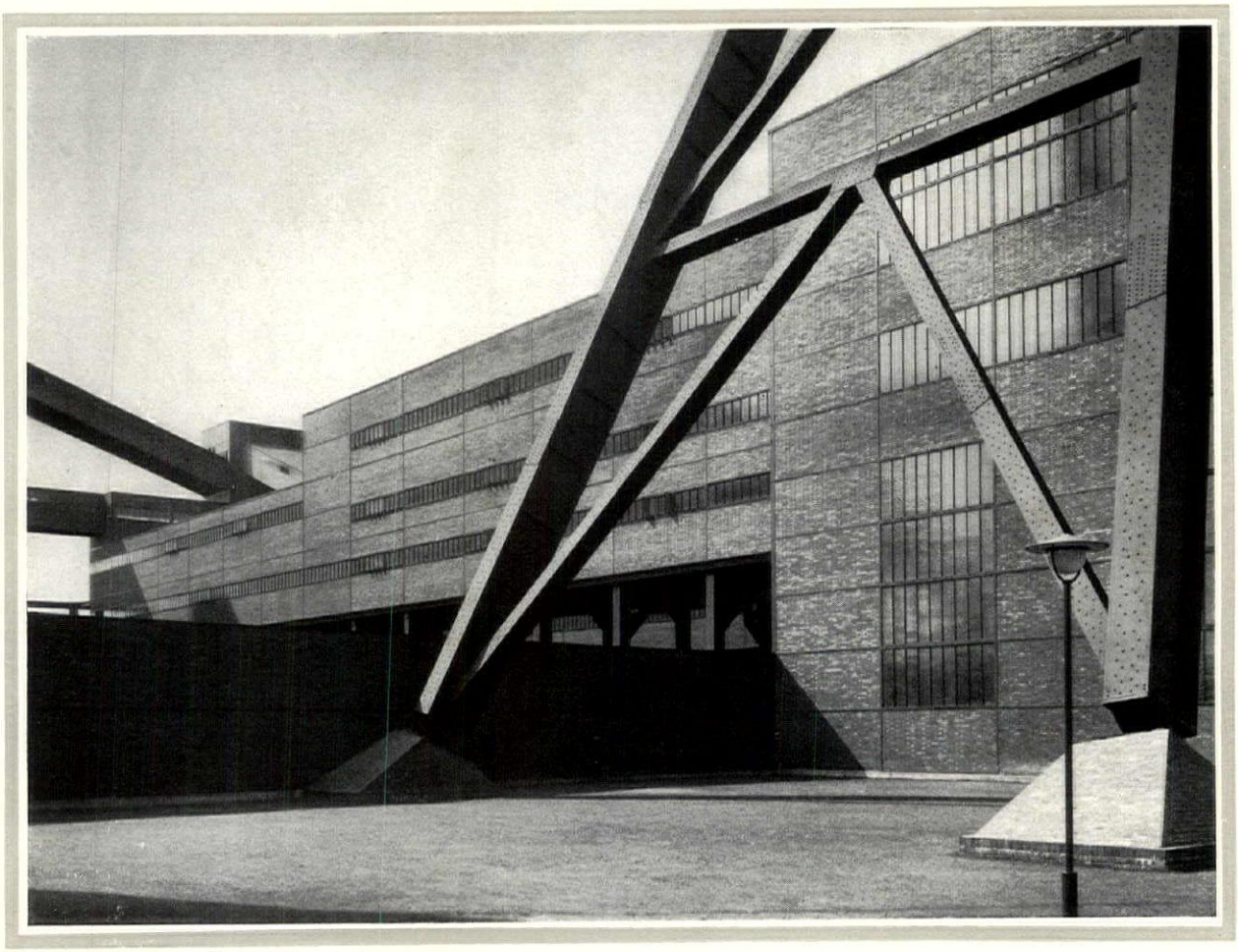
B

PRICE OF SECOND FORM: 835 DOLLARS



C

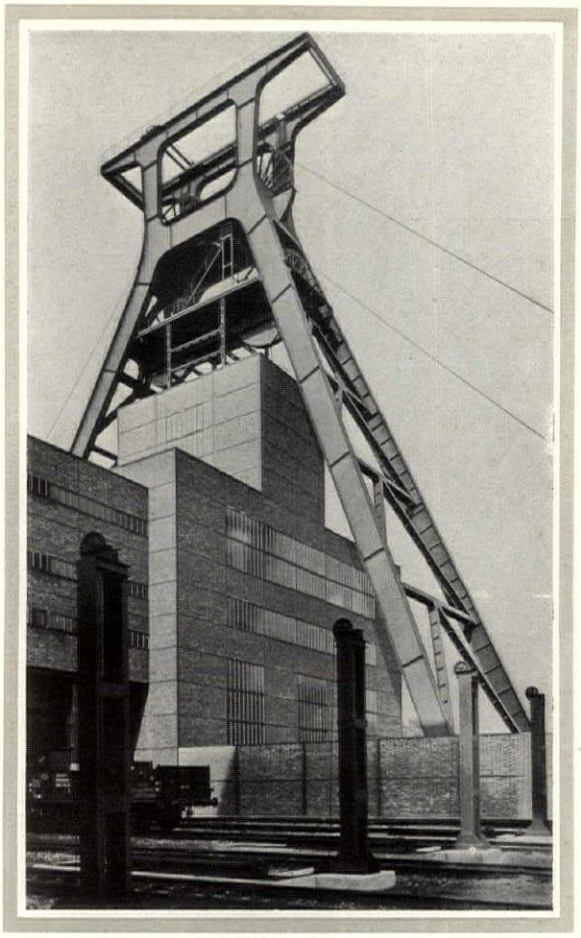
PRICE OF THIRD FORM: 1550 DOLLARS



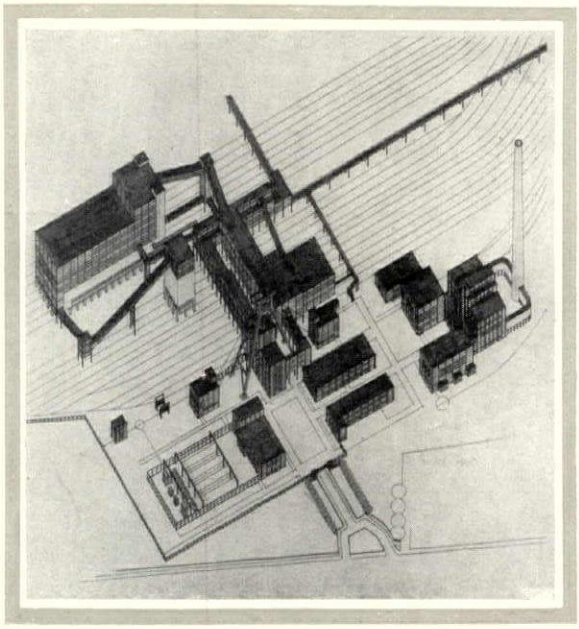
THE ZOLLVEREIN COLLIERY IN ESSEN
SCHUPP AND KREMMER, ARCHITECTS

The Zollverein Colliery operates the largest plant in Germany. Every structure in the extensive establishment is built upon an iron framework and covered with glazed brick, in Germany, called clinker. A greater part of the exterior of the buildings is provided with windows of wire-reinforced glass. Technical and architectural considerations governed the choice of this construction. It promised the high degree of elasticity needed to withstand the strong vibration of machinery, and it promised even with buildings which vary in form and size and purpose throughout the whole complex, a general impression of uniformity.

The great buckets which raise the coal hang from a giant derrick rising above the pit-building. The coal passes on to a never-ending train of cars which convey it to the great washing installations, thence to the grinding plant, or, finally, to the other departments. A compressed air pumping unit supplies the compressed air which is piped down into the galleries of the mine.



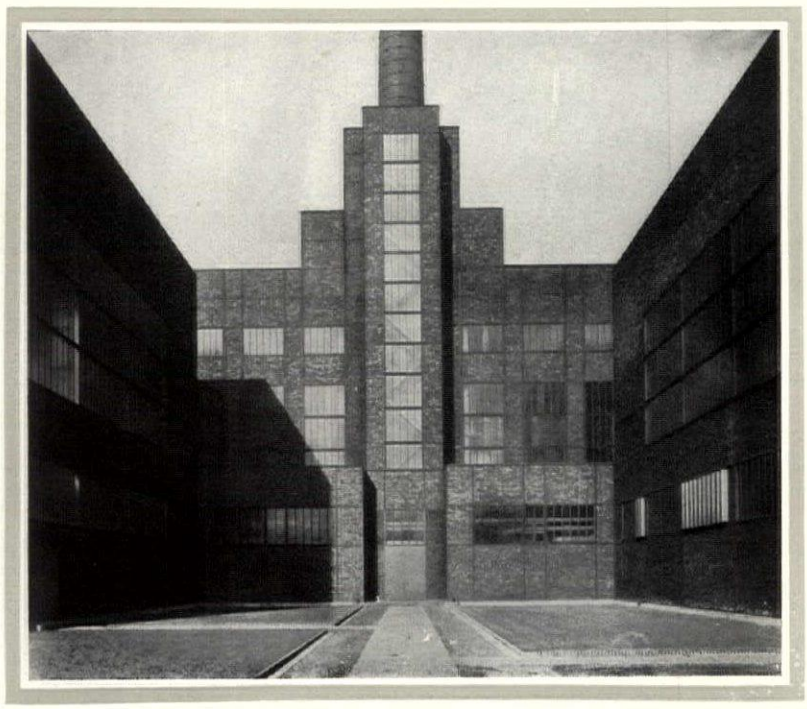
GIANT HOISTING DERRICK



PLANT WITH RAILWAY TRACKS

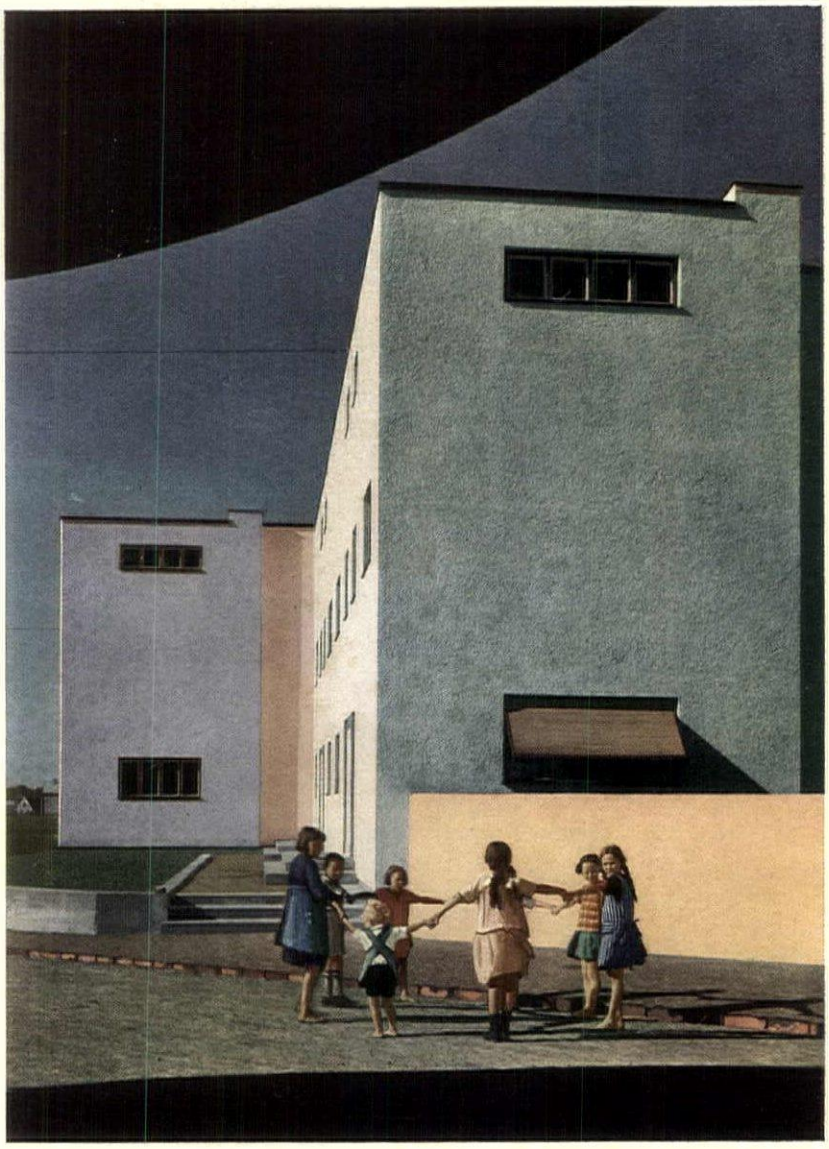
AND LOADING FACILITIES

MAIN COURT



POWER PLANT

GREAT CHIMNEY IN BACKGROUND



A RESIDENTIAL DEVELOPMENT IN AUGSBURG



COMPOSED AND ARRANGED IN GERMANY

Printed in Austria

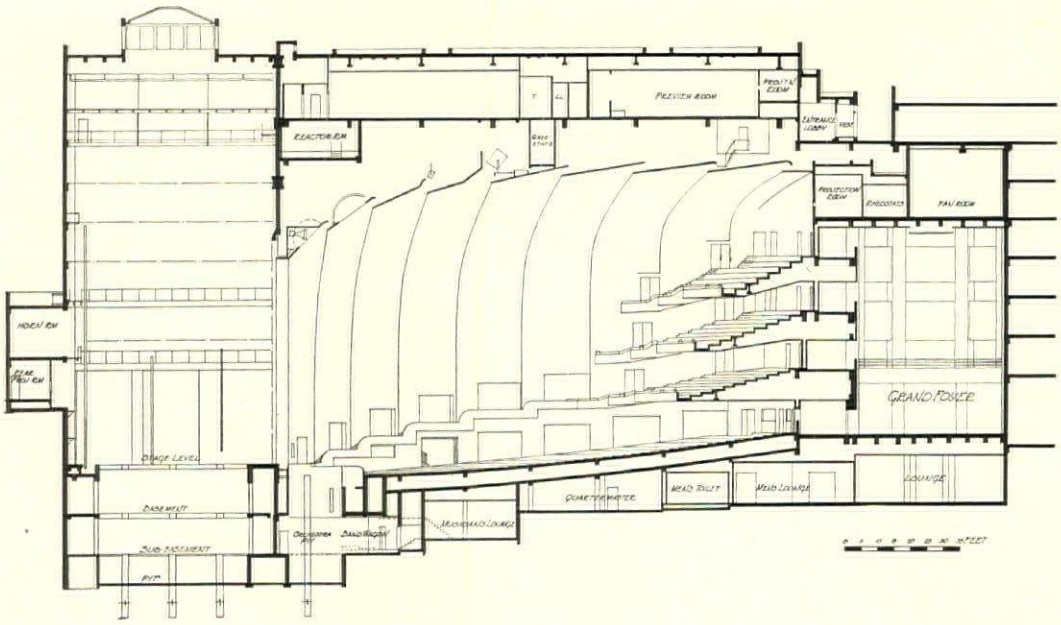


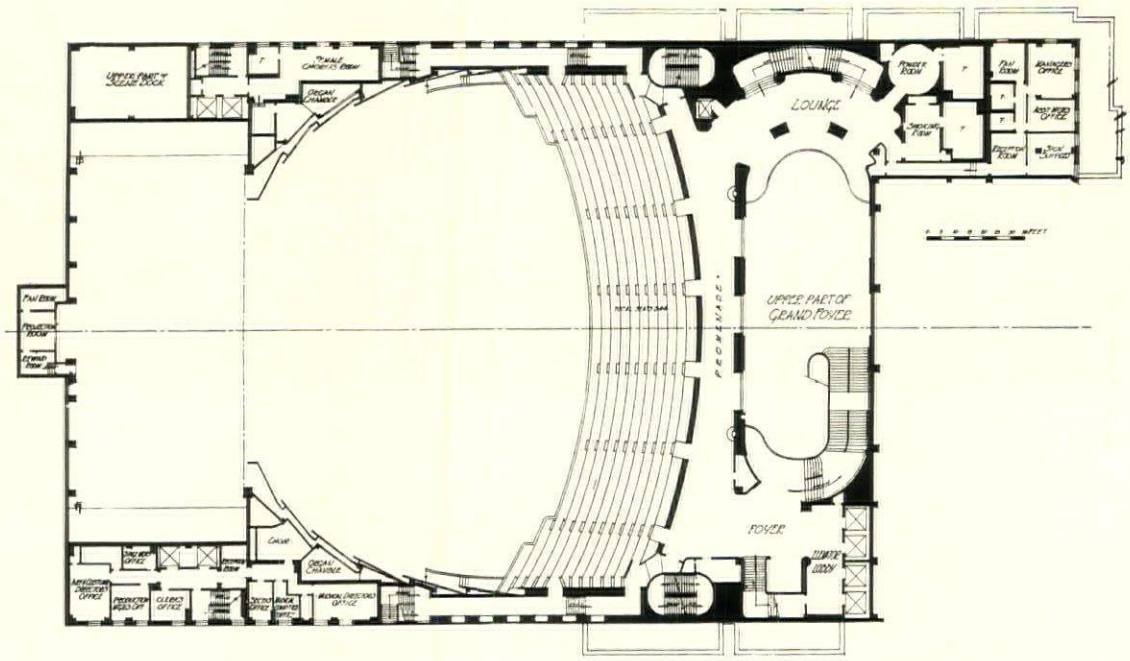
Rotan

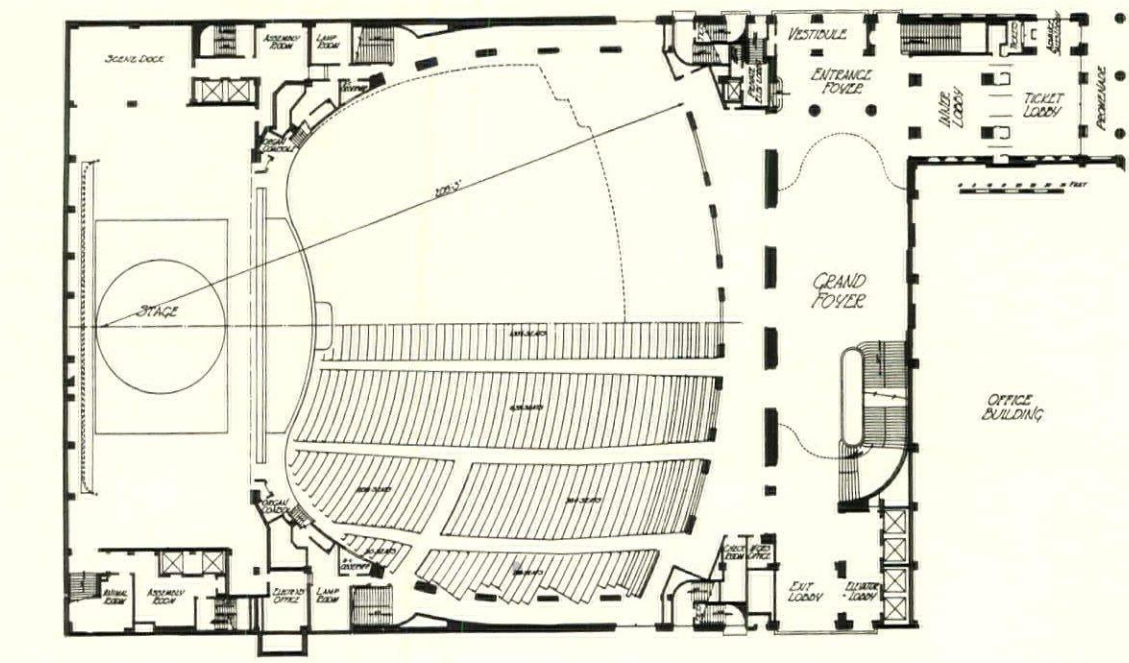
The grand foyer looking toward the mural painting by Ezra Winter, the coloring of which established golden brown as the dominant tone of the room. Above the Numidian Breche Sanguine marble dado, gold mirrors alternating with henna colored brocatelle-covered piers extend to the gold-leafed ceiling 60 ft. above. The central lighting fixtures and those built into the mirrored walls are of frosted glass

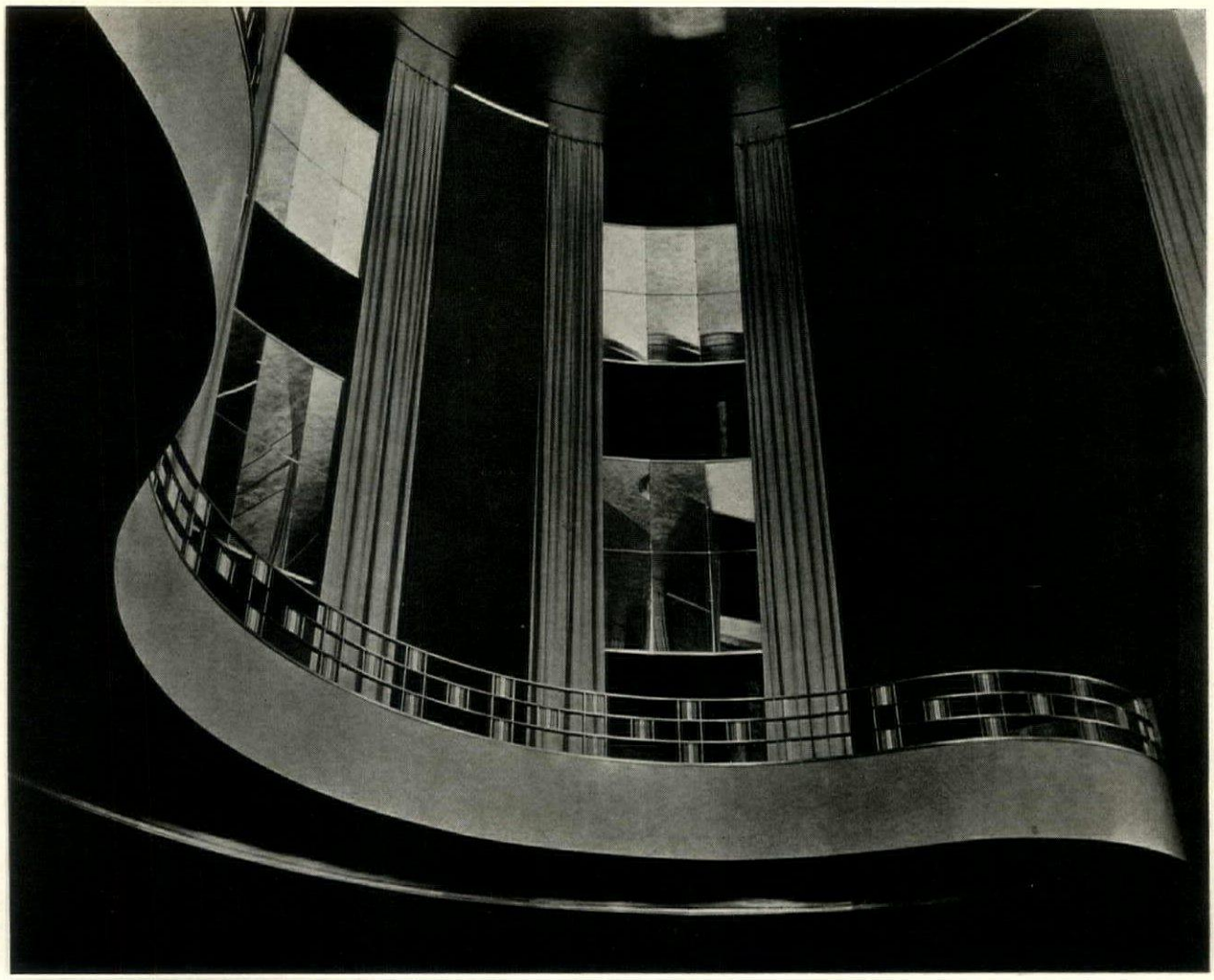
RADIO CITY MUSIC HALL, ROCKEFELLER CENTER

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY, HOOD & FOUILHOUX, ARCHITECTS






SCENE DOCK
ASSEMBLY ROOM
LAMP ROOM
VESTIBULE
ENTRANCE FOYER
LADIES' LOBBY
TICKET LOBBY
PROMENADE
ORGAN CONSOLE
100'-0"
STAGE
GRAND FOYER
OFFICE BUILDING
ORCHESTRA
ORCHESTRA
ORCHESTRA

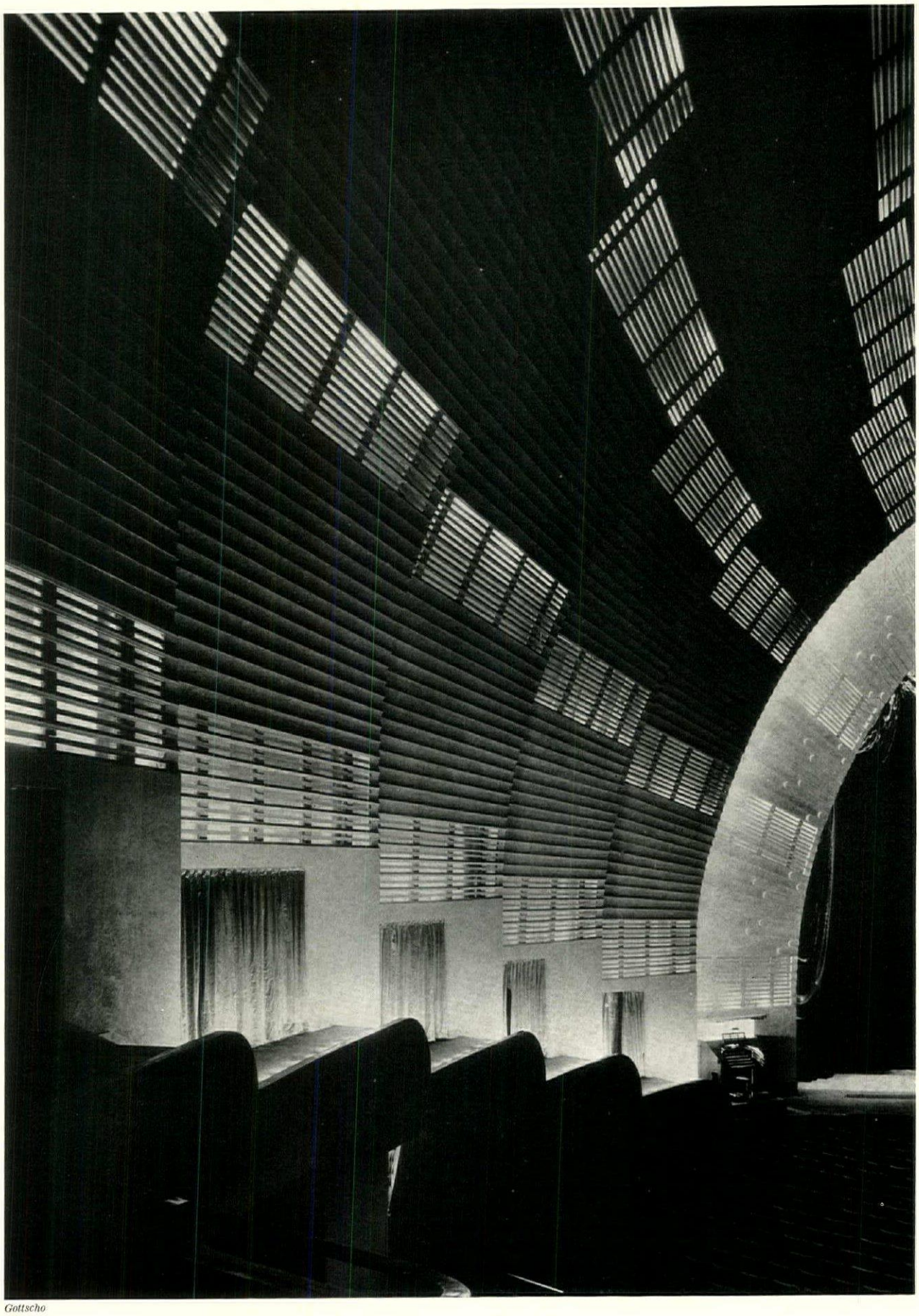


Looking upward toward the mezzanine balconies surrounding the grand foyer. The walls are covered with a washable wall fabric, broken up by silver mirrors, and golden brown drapes. The balcony facing is painted to match, and the railing is of bronze and nickel bronze. The doors leading from the ticket lobby and into the auditorium are of stainless steel with bronze plaques. On the page opposite are the ground floor and first mezzanine plans, and the section

Two comprehensive articles on this music hall, formerly known as International Music Hall, have been published in previous issues of THE ARCHITECTURAL FORUM. *The development of the unique design was described by Henry Hofmeister on pages 355 through 360 of the April, 1932 issue and, in the same issue, the interesting engineering features of the entire structural frame were discussed by H. G. Balcom, on pages 407 through 410*

RADIO CITY MUSIC HALL, ROCKEFELLER CENTER

REINHARD & HOFMEISTER, CORBETT, HARRISON & MACMURRAY, HOOD & FOUILHOUX, ARCHITECTS



Gottscho



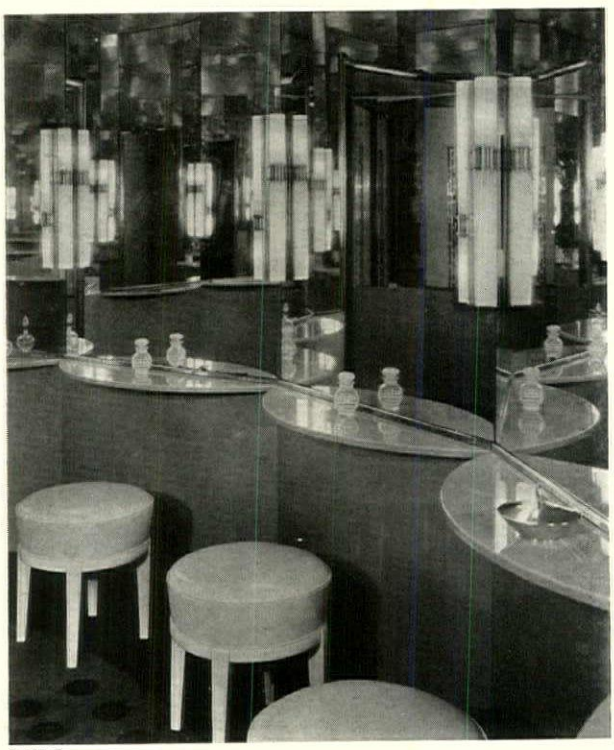
Rotan

The semicircular auditorium ceiling composed of a series of "telescoping" bands suspended from steel framework above, not only affords admirable acoustics, but aids in focusing attention upon the stage. The ceiling is built of acoustical plaster, arranged in radiating flutes with metal beads, interrupted by occasional grilles for the organ and sound reproducing system. The neutral color affords a perfect background for picking up the coloring of the lights which are concealed in the openings between the arches of the ceiling. A fireproof fabric, designed by Ruth Reeves, covers the rear walls, and the balcony soffits are gold leafed. The rich red coloring of the upholstered chairs supplies a warmth that is supplemented by the special carpet designed by Donald Deskey, who had charge of interior decorations

RADIO CITY MUSIC HALL, ROCKEFELLER CENTER

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY, HOOD & FOUILHOUX, ARCHITECTS





Bodorff

The basement lounge, above, which has black permatex walls upon which Louis Bouche has painted a series of murals. The ceiling is coffered, with diamond-shaped light fixtures suspended from it. Gunmetal mirrors are used for the facing of the heavy columns. One of the women's rest rooms, left, with walls composed entirely of mirrors

RADIO CITY MUSIC HALL

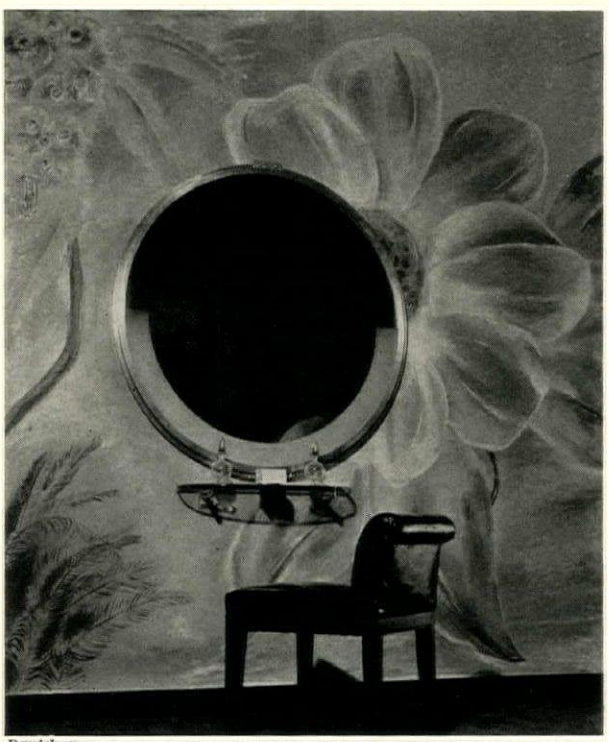
ROCKEFELLER CENTER

REINHARD & HOFMEISTER,
CORBETT, HARRISON & MacMURRAY,
HOOD & FOUILHOUX, ARCHITECTS



Above, Bodorff. Left, Rotan

Two of the thirty-one powder and smoking rooms designed under the direction of Donald Deskey. The walls of the smoking room, above, are covered with fireproofed parchment, with a decorative mural panel by Buk Ulreich. The powder room, right, was painted by Yasuo Kuniyoshi. Here, as in all other special rooms, the wall covering was treated to comply with fire regulations

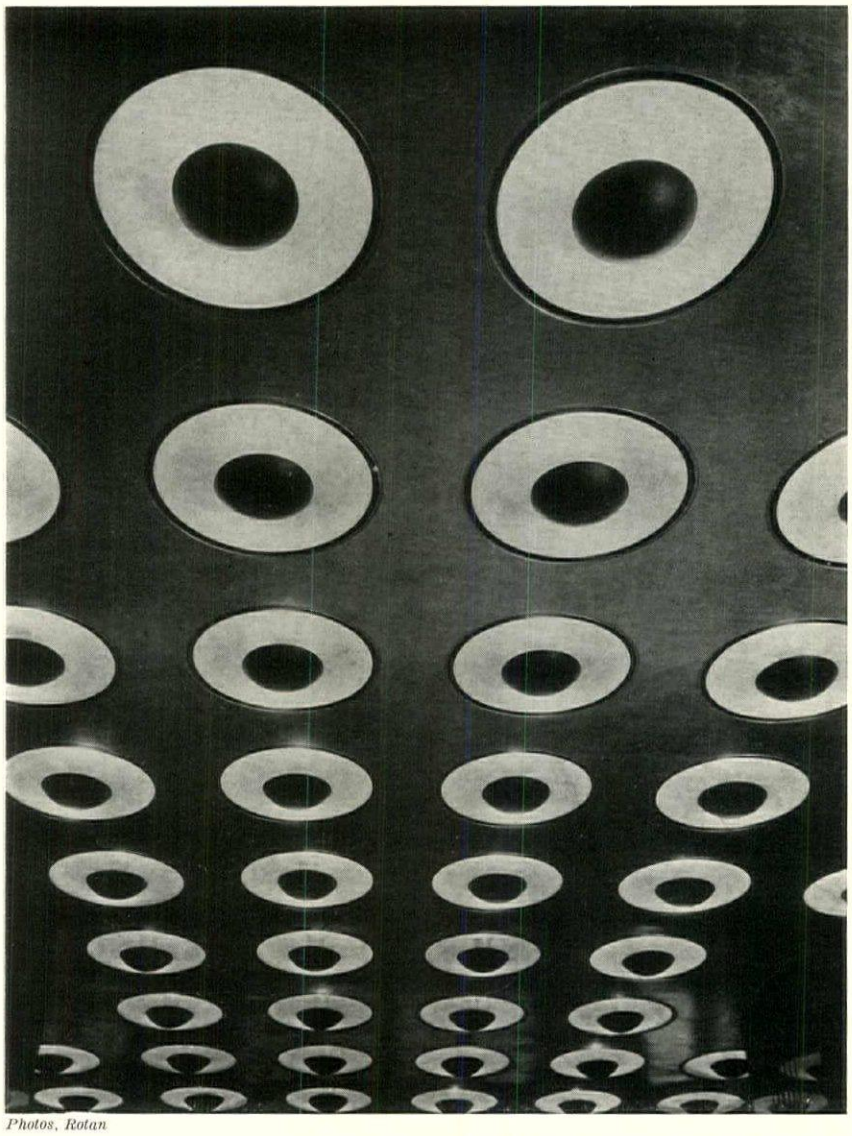


Dantelson

RADIO CITY MUSIC HALL

ROCKEFELLER CENTER

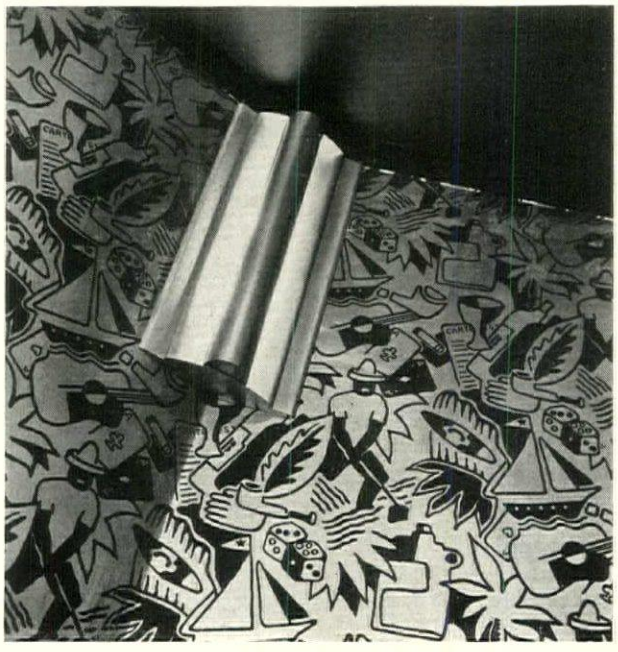
REINHARD & HOFMEISTER,
CORBETT, HARRISON & MacMURRAY,
HOOD & FOUILHOUX, ARCHITECTS

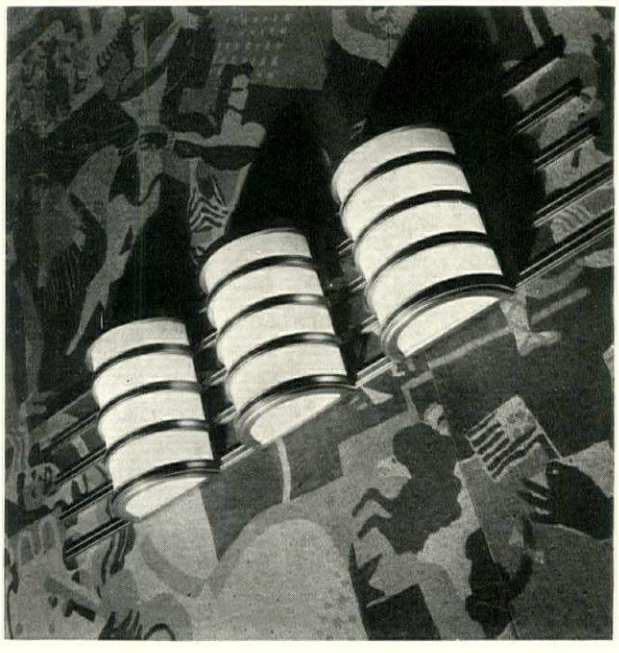


Photos, Rotan

Three different lighting treatments in the Music Hall. The coffered ceiling of the ticket lobby, with its suspended units, left; the wall unit in one of the smoking rooms, below left, and the incidental lighting for the auditorium walls, directly below

Photographs of lighting fixtures by courtesy of Cox, Nostrand & Gunnison, illuminating engineers

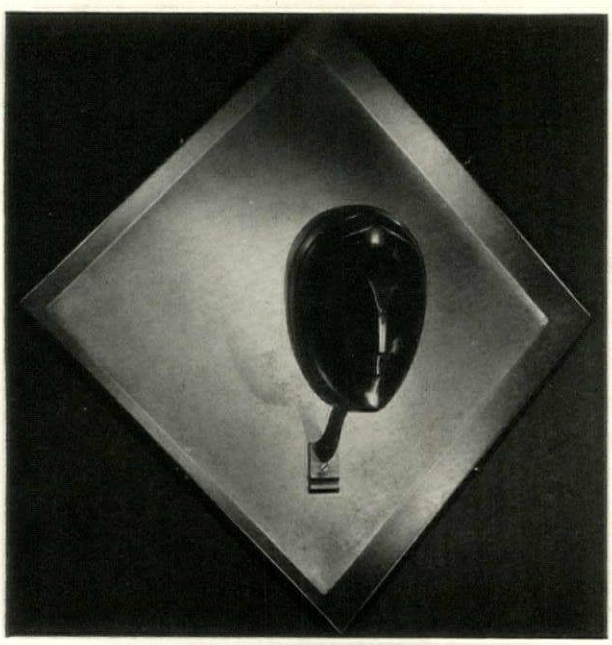


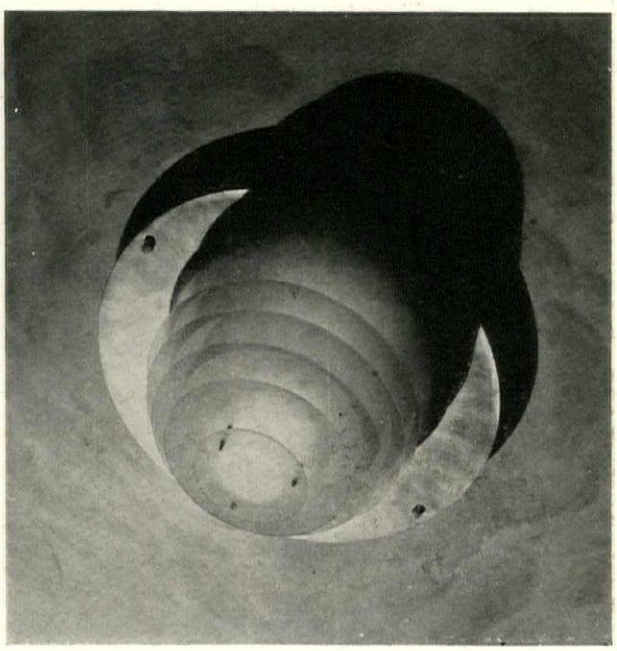


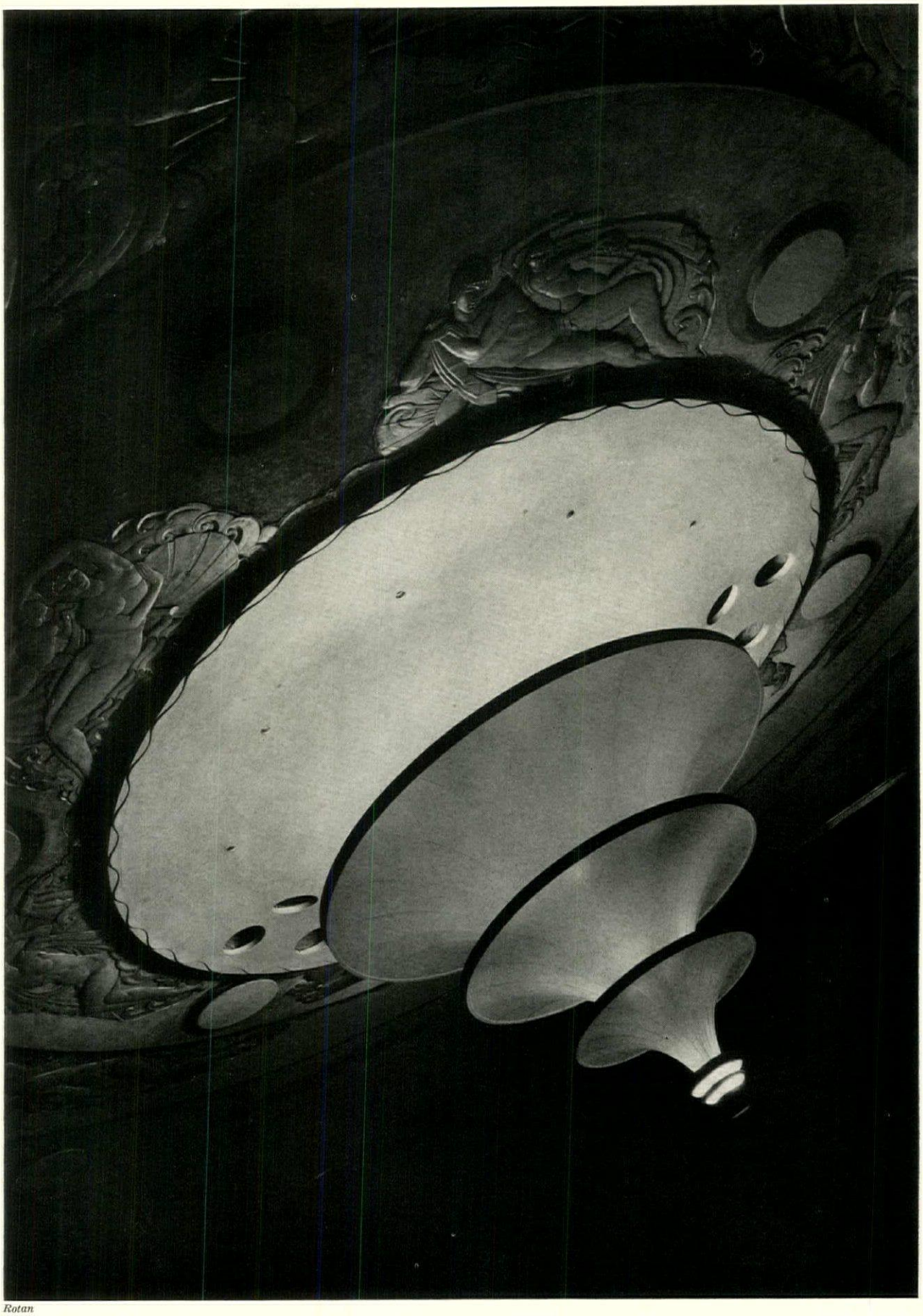
Lighting fixtures in the RKO Roxy Theater in Rockefeller Center. The frosted glass panel in the soffit of the auditorium balcony, right; one of the indirect units for the mezzanine walls and staircases, below left; frosted glass ceiling unit in the principal lounge



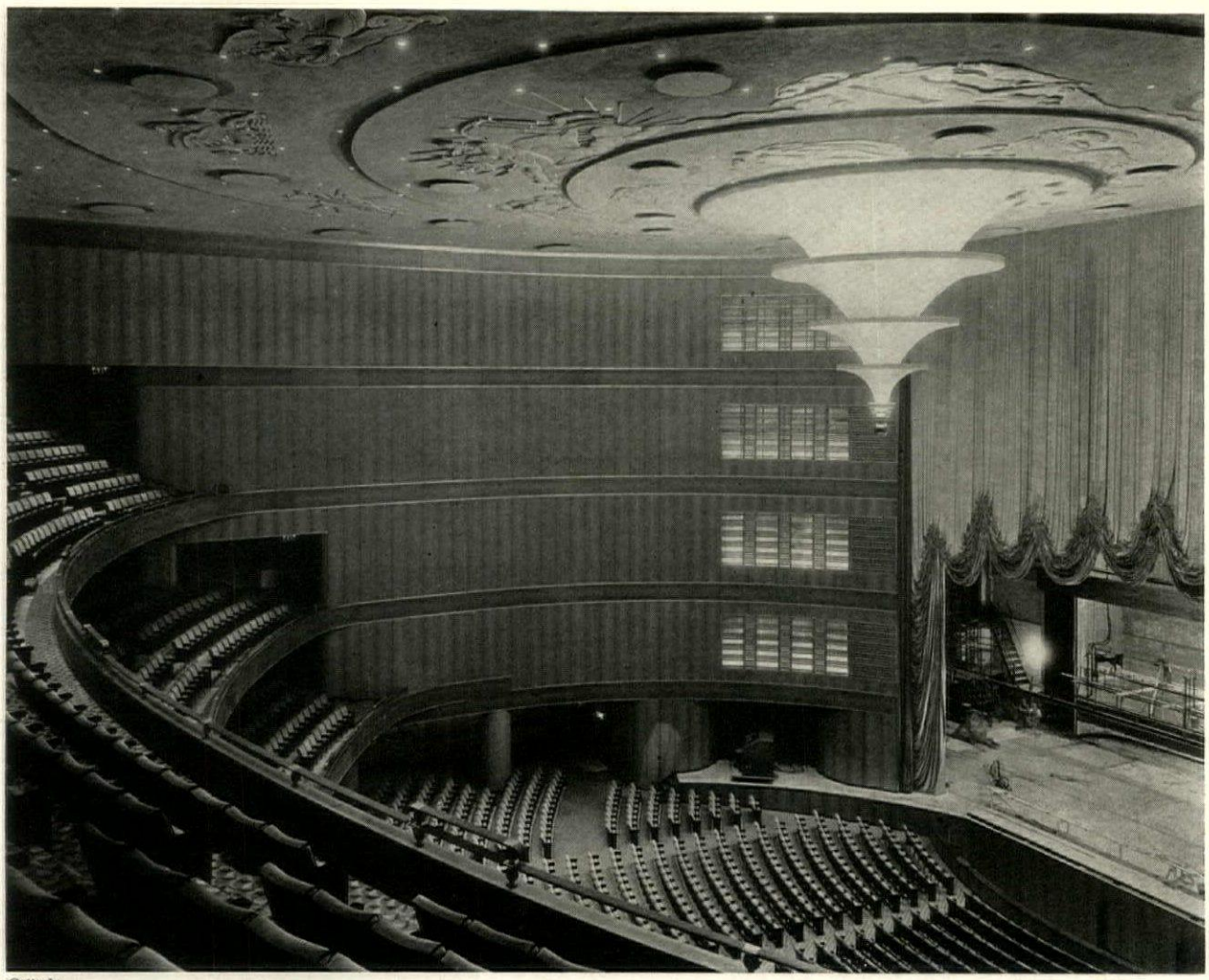
Photos, Rotan







Rotan

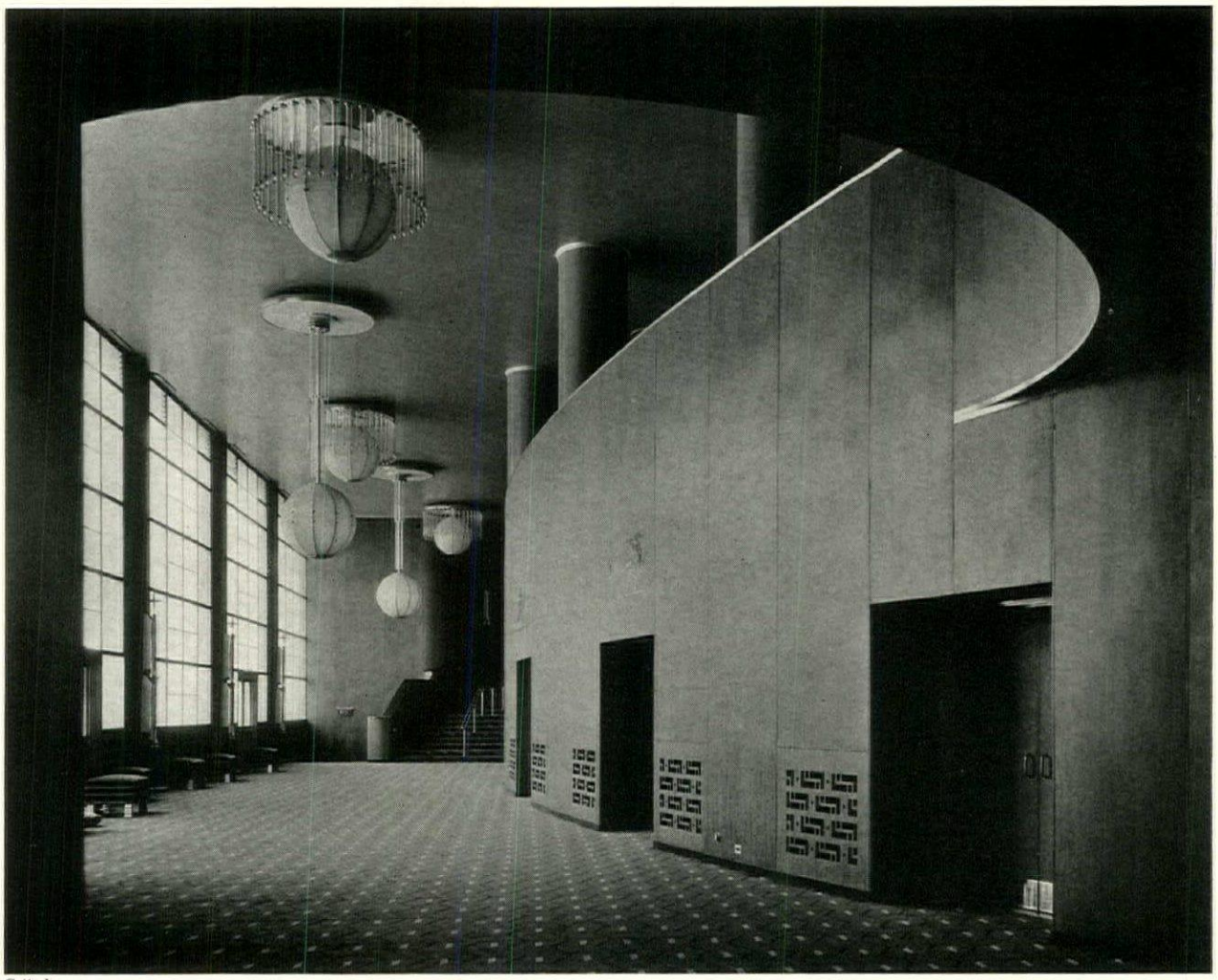


Gottscho

Interior of the RKO Roxy Theater, which has walls of ribbed mahogany veneered on metal, and an acoustical plaster ceiling, decorated with hard plaster sculpture. The huge ceiling fixture is constructed of metal louvers, the largest of which is approximately 25 ft. in diameter. Spotlights are concealed in the ceiling, and a star effect is obtained from smaller holes distributed across it. The organ grilles are of bronze. The chairs are upholstered in a terra cotta colored fabric and the carpet is brownish purple in tone

RKO ROXY THEATER, ROCKEFELLER CENTER

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY, HOOD & FOUILHOUX, ARCHITECTS



Gottscho

The foyer, which has walls of bubinga wood veneered on metal. The cast glass surface at the left is illuminated from behind, and the columns at the right and the doors leading to the auditorium are vermilion. The carpet is the same as that in the auditorium, and the ceiling is painted blue green, from which are suspended crystal lighting fixtures. Eugene Schoen was the decorator

RKO ROXY THEATER, ROCKEFELLER CENTER

REINHARD & HOFMEISTER, CORBETT, HARRISON & MacMURRAY, HOOD & FOUILHOUX, ARCHITECTS

STRUCTURAL STEEL WELDING

BY IRVING H. BOWMAN

The progress made in structural welding design and technique has been rapid in the past few years. The interest of architects has been stimulated by the simplicity of design and the advantages of a noiseless, rapid and economical system of construction. This article is therefore a timely compilation of fundamental data relating to the nomenclature, design, specification and inspection of structural steel welding.

THERE are now more than 180 buildings in the United States in which welding has been used to erect the structural steel frame. Various welding codes have been adopted by five cities. Many others are revising their building codes to permit welding, and the "Code for Fusion Welding and Gas Cutting in Building Construction," as formulated by the American Welding Society, has been adopted by ten cities. Over a hundred cities have adopted the Uniform Building Code, as formulated by the Pacific Coast Building Officials Conference, 1927, Section 2,710 of which sanctions fusion welding.

Some uncertainty has existed regarding the types of welding usually employed in building construction. Technically, it is only fusion welding that is employed for joining structural steel. Fusion welding includes arc welding, atomic hydrogen welding, and gas welding. Either arc or gas welding is adequate for the joining of structural steel, but the former has been more broadly adopted because of its speed. Since the other processes are more adaptable to shop work or to the welding of light-gauge metals, this article will be concerned only with the various branches of electric metal arc welding. (See definitions on page 166.)

The most common arguments advanced in favor of welding structural steel are the economy and the noiselessness of the process. It does not follow, however, that a structural steel frame may always be more economically joined by welding than by riveting. The economy referred to should be ultimate and stated only in view of all the operations involved. For example, while the time required to drive home a rivet (especially a "shop" or "power-driven" rivet) is actually less than the time to deposit a weld of equal strength, the structural details incident to riveting operations may often produce a higher cost for the erection of a steel frame than would obtain if a frame for the same purpose were designed for and joined by welding.

Operating toward the economy of welded structures are the following factors:

1. ECONOMY OF MATERIAL. With proper design and field conditions, in some cases 20 per cent less steel tonnage may be required for a welded structure than for a similar riveted frame.

2. LIGHTNESS OF TENSION MEMBERS. A lighter cross-section area may be used in tension members to be welded than would be possible in riveted work, since rivet hole areas must be deducted in riveted design.

3. CONTINUITY OF SUPPORTS. This can be obtained in a welded structure with a minimum amount of connection material permitting a reduction in the resisting moment required and a consequent reduction in the size of members.

4. RECTIFICATION OF ERROR. Mistakes in drafting, design or field operations may be often more easily corrected in the field. No punching is necessary and there usually is no need for sending the member back to the shop.

5. SAVING IN LABOR. One welding operator frequently is assigned to the same tonnage of steel usually erected by a four-man riveting gang.

6. EASE IN ERECTION. Welding apparatus is small and mobile, and welds may be deposited in places inaccessible to riveting operations. This implies flexibility in design.

7. ABSOLUTE FIXATION OF MEMBERS. Welding permits joints that are both watertight and airtight. While some riveted joints will slip under stress, welded joints cannot slip, and will behave exactly as assumed when designed.

WELDING NOMENCLATURE*

1. WELD. A localized consolidation of metals.

2. FUSION WELDING. A process of welding metal in the molten or molten vaporous state without the application of mechanical pressure or blows. This process includes gas, arc and fusion thermit welding.

3. CARBON ARC WELDING. An arc welding process wherein a carbon electrode is used and filler metal (if required) is supplied by a welding rod.

4. METAL ARC WELDING. An arc welding process wherein the electrode used is a metal rod or wire, which, when melted by the arc, supplies the filler metal in the weld.

5. ATOMIC HYDROGEN WELDING. A fusion welding process wherein the heat of an electric arc between two suitable electrodes is used to dissociate molecular hydrogen into its atomic form, which, on recombining in the molecular form, gives up the energy required to dissociate it, producing a flame of very high temperature, at the same time bathing the molten weld metal in hydrogen. (Used chiefly in shop work on light gauge metal.)

6. SHIELDED (CARBON OR METAL) ARC WELDING. Arc welding processes wherein the arc is surrounded by, and the molten weld metal bathed in, suitable gases. (Usually by means of coated electrode.)

7. WELDING WIRE OR WELDING ROD. This term usually designates a welding wire which is bare of any coating, and may be used in either carbon arc or metal arc welding processes.

8. COATED ELECTRODE. This term usually designates wire coated with a special flux which at welding heat generates the gas used to increase weld ductility by preventing access of the nitrogen and oxygen of the air into the weld metal.†

9. BASE METAL. The parent metal welded or cut.

10. FILLET WELD, BUTT WELD, EDGE WELD. These common types are shown and differentiated in Figure 1.

11. CONTINUOUS WELD. A weld of unbroken continuity. (All welds are understood to be continuous unless otherwise specified.)

12. INTERMITTENT WELD. A weld of broken continuity.

13. TACK WELD. An intermittent weld used for assembly purposes only.

14. FINISHED WELD. A weld the natural exposed surface of which has been modified by mechanical or thermal means to improve its appearance.

15. WELD PENETRATION. A dimensional expression of the depth of the fusion zone below the original surface and/or edge planes of the base metal. (Figure 7.)

16. CRATER. A convex depression in the fusion area of a weld indicating the depth of fusion.

17. GAS POCKET (or Blow Hole). A cavity in a weld caused by the trapping of gases liberated by the metal when cooling.

18. WELD SIZE. A dimensional expression of the cross-section designed value of the weld. The size of a fillet weld is the designed length of its legs, and the size of a butt weld its net or unreinforced throat dimension in inches. (Figure 1.)

19. WELD LENGTH. A dimensional expression of the unbroken length of the full cross-section of the weld, exclusive of the length of any craters.

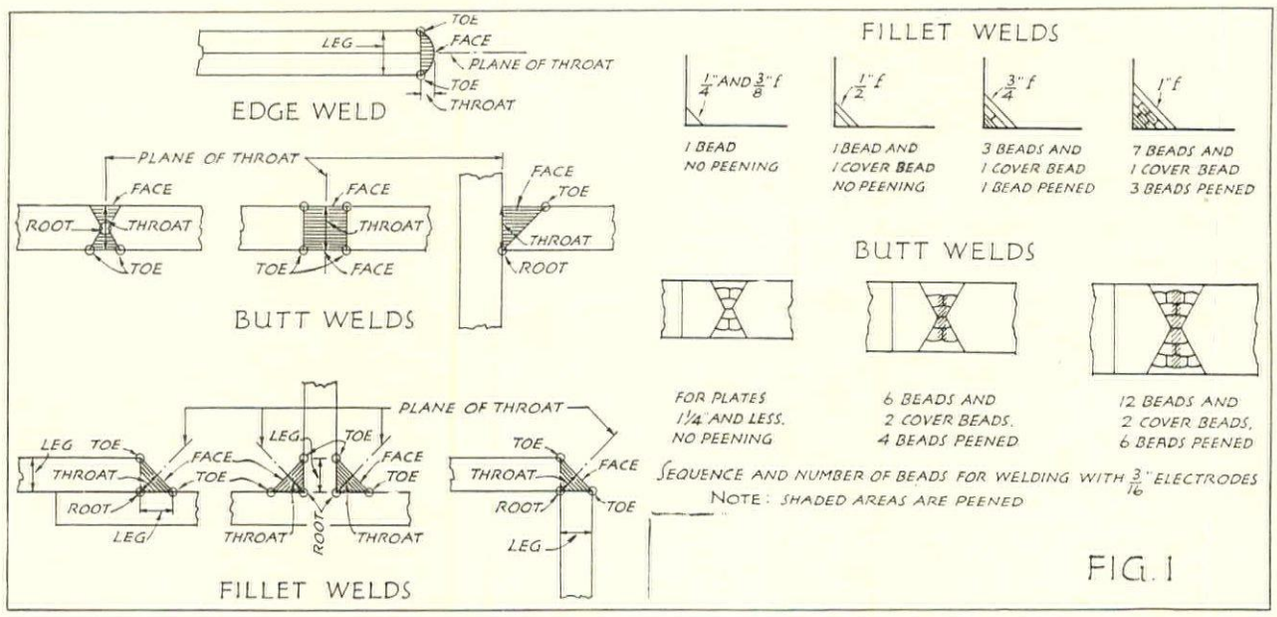
20. CUT. The severing of metal by chemical and/or thermal means, *viz.*, gas cutting, carbon arc cutting and metal arc cutting.

21. KERF. The space from which the metal has been removed by the cutting torch.

22. PEENING. Manual or machine hammering of a weld to relieve residual stress due to cooling contraction.

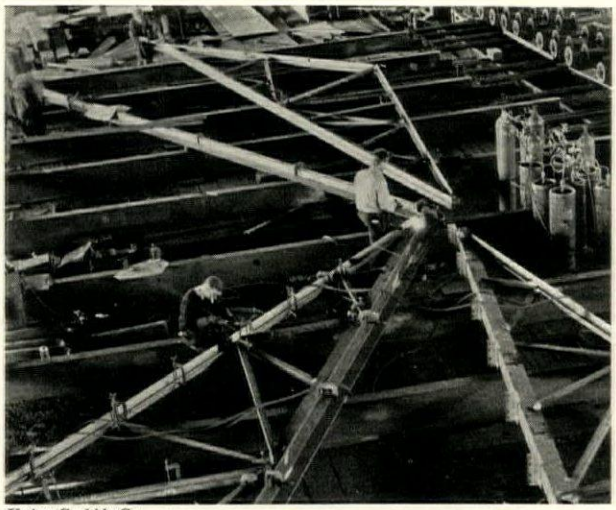
* Note: Most of these definitions have been taken verbatim from the American Welding Society's "Welding and Cutting Nomenclature, Definitions and Symbols (1929)."

† Coated electrode is available in 14 to 18 in. lengths, and also in long coils for use in automatic machines. Some manufacturers of coated electrode claim approximately 50 per cent greater tensile strength for welds made with their coated electrodes and approximately three times as much ductility.



The economies claimed for the welded frame will naturally be lost if the structural design does not conform to the best welding practices. There could be little economy in welding a frame originally designed for riveting, with all accessory gussets, angles, etc.

The prices to be obtained on welding, as compared with riveting, naturally depend on the type of fabrication shop bidding on the work, as a shop equipped primarily for welding will often be able to give the lowest prices. It is doubtful if there will be economy when a member is to be partially riveted and partially welded, because of increased handling and time losses.



Union Carbide Co.

A view in the shop, showing assemblage of a large truss and joining of the members by oxyacetylene welding

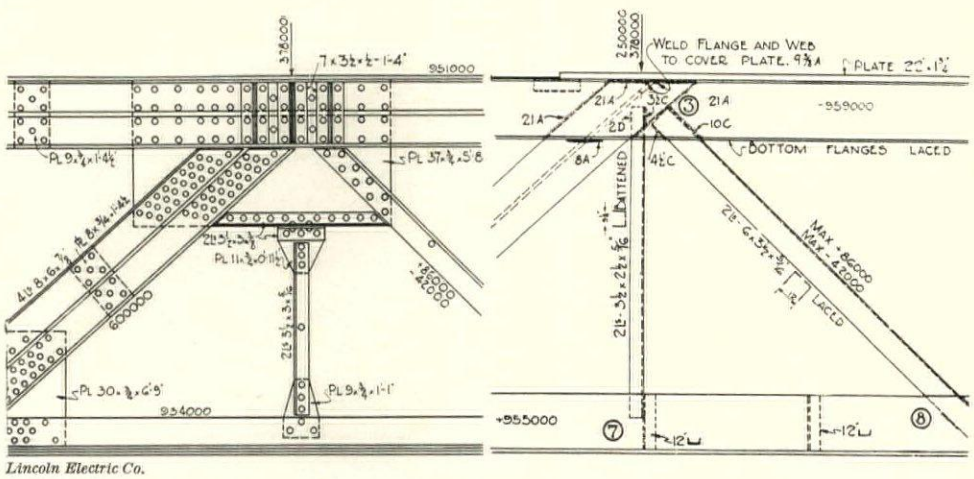
DESIGN. Through structural welding the architect is saved the difficulties sometimes caused by protruding windbracing gussets, angles, knee braces, etc., which have a way of interfering with interior design. The secret of economy, simplicity and directness lies chiefly in the layout of members, layout of joints, and the location and selection of weld size and type of a given job. As a guide to proper welded design, the following points are significant.

1. Factors of Safety. Weld lengths should be called for exactly as figured for strength (to nearest ¼ in.) with no further provision as a factor of safety, since the permissible unit stresses as outlined in welding codes are approximately one-fourth of the ultimate stresses which such welds will sustain.

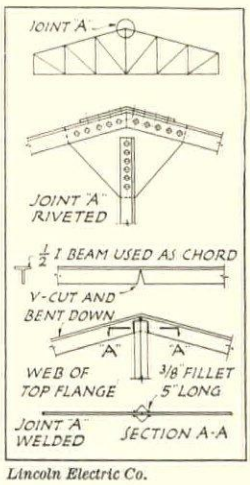
2. Framing. Make beams continuous over girders as far as possible, thereby reducing beam depths and weights, and the amount of weight of connection material.

3. Joint Layout and Location of Welds. (a) Members should be connected directly to other members without additional gussets, splices, etc., whenever possible. (Figures 2 and 3 illustrate how gusset plates may be eliminated by good welded design.) (b) In designing connections of angles or any other such unsymmetrical shapes to other members, remember that fillet welds at edges of contract surfaces must be proportioned in length to their respective distances from the neutral axes of the unsymmetrical shapes. (c) Avoid punching holes in large shapes as far as possible, since the cost of handling such heavy pieces through punching shops, time losses thereby incurred, and the deduction for holes from effective cross-section area of the members will increase the cost. (d) In locating welds always consider their accessibility. Remember that in depositing a weld, the electrode must be held at right angles to the face of the pool of molten metal. (Figure 5a illustrates poor design, and Figure 5b good design in this respect.) As far as possible, locate welds so that they can be made in "flat" position (electrode pointing downward), since "overhead" welds (electrode pointing upward)

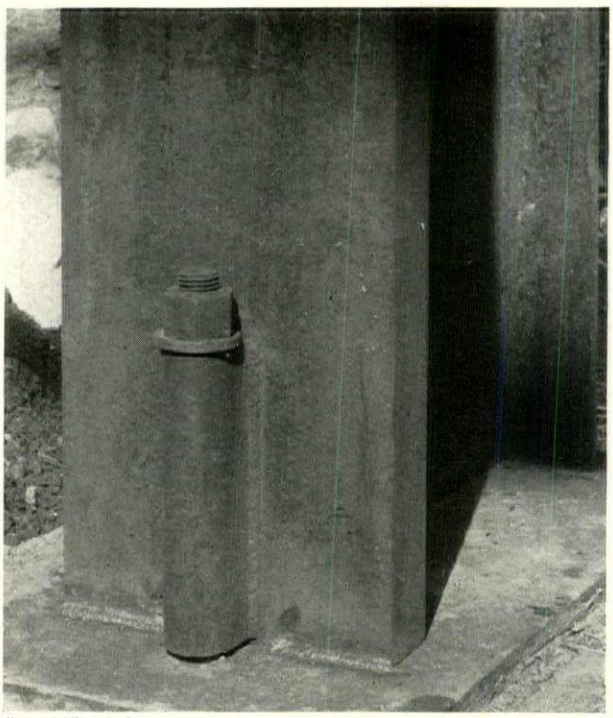
Figure 2 (below). Heavy truss designed for riveting, and for welding, showing the simplicity of the latter. Figure 3 (below, right). Comparative designs for smaller truss detail



Lincoln Electric Co.



Lincoln Electric Co.

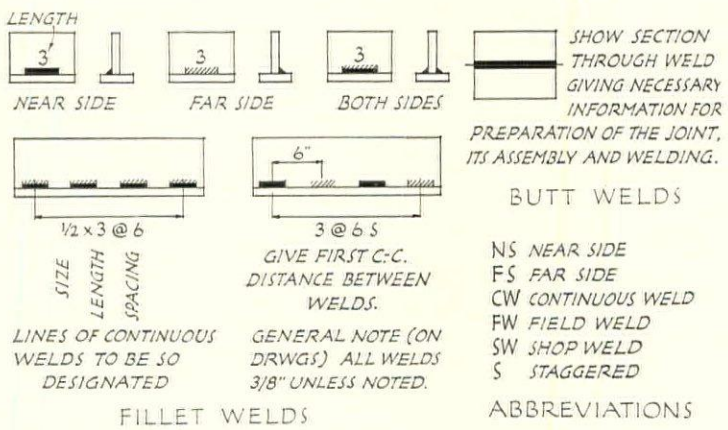


General Electric Co.

A column base fixed by welding. Detail at left shows a typical column fusion-welded to the bearing plate

take about twice the time to deposit and are consequently more expensive.

4. Selection of the Type and Size of the Weld. (a) Use one type and size of weld as far as possible on the same job, for convenience and simplicity of fabricating operations, just as one rivet size is usually adopted as far as possible in riveted construction. (b) Three-eighth inch fillets are the most common standard size (probably adopted as such because it is the largest fillet laid in one single pass in general practice, which therefore facilitates economical construction). (c) When a continuous fillet of minimum size exceeds the required strength, call for an intermittent weld (except when weld must be weatherproof or leakproof); use the minimum number of intermittent welds possible, and make the minimum length of intermittent welds four times the size of the fillet and not less than 1 in. in length. (d) Maximum center-to-center distances of intermittent welds should not exceed 16 times the thickness of the thinnest plate, in order to prevent bulging between welds. (e) The specified size of a fillet and the specified length of an intermittent weld are considered as minimum. (Include some statement to this effect in specifications.) (f) Call for welds to be water, oil, or vacuum tight when conditions require. (g) Use single or double bevel T-welds only where a fillet would cause interference with the intended function of the finished member, since the additional cost of beveling can usually be avoided if planned properly at the beginning. (See Figure 6.)



DRAFTING & DETAILING SYMBOLS FIG. 4

American Welding Society

Drafting and Detailing Suggestions. The symbols recommended by the American Welding Society in their booklet entitled "Welding and Cutting Nomenclature, Definitions and Symbols," November, 1929 edition, are still in use by shipbuilders, but the symbols shown in Figure 4, which have been prepared by the Society's Committee on Nomenclature, have been submitted to the executive committee of the Society and may soon be adopted as standard for structural steel welding. A chart of such symbol indications should be included in the welding drawings.

1. The best way to deal with differentiation of shop and field weld indications on drawings is to show only shop welds on the regular drawings and make a separate set of small sheets to be used only by the field welding operators. It is best to standardize on a limited number of typical field connections for a given job and to give each a serial number which may be clearly marked on the erection drawings alongside of the joint to which it applies.

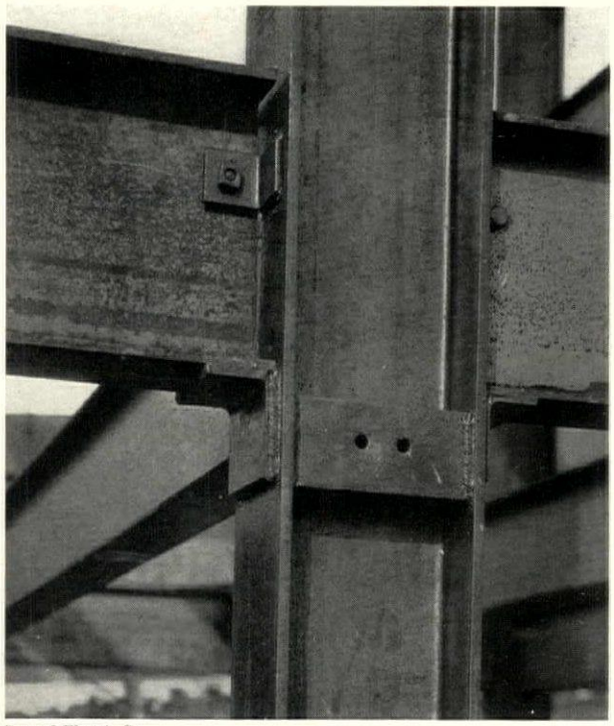
2. On scale details from 3 in. equals 1 ft. to ½ in. equals 1 ft. show welds on drawings with full lines when in view and with cross hatching when hidden. (See Figure 4.)

3. It is not necessary to note the length of a weld when it is clearly shown to extend the full length of a piece of parent metal of definitely known length.

4. Several large manufacturers of welding equipment and supplies have published drafting and detailing data sheets which give helpful suggestions. (See bibliography on page 172.)

Inspection. The safety of a fusion welded structure depends perhaps as much on the inspector's judgment of the quality of the welds as it does on competent design. A great responsibility therefore rests upon the inspecting representative of the architect,

Simplicity of the welded frame. Detail at right shows a typical girder joint and angle support arc-welded to column



General Electric Co.

engineer or owner, which is only slightly relieved by the routine inspection performed by the building department (and the fabricator in the case of shop welds).

It is essential that the inspector have a demonstrated record of experience in welding techniques and practice, for his duties include not only the approval of the welds made but the checking of the steel sections, the current, and electrodes to be used. He must make certain that the welds as they are deposited conform to the approved drawings as to sizes and positions and that the electric current is suited to the various sizes of fillets and thickness of steel. He must, in most cases, have as much knowledge of shop fabrication as field erection and must be able not only to check a welder's work daily but also by means of an approved periodic test to select an operator with the proper qualifications for the work.

Building Department Inspection. The procedure of the local building department in the inspection of welded steel structures, in the average city, may be summarized as follows:

1. The superintendent of buildings requests proof of the ability of the architect or engineer who designed, detailed and will supervise the construction of the building.

2. He also requests proof of the ability of the welding contractor to make welds which meet the requirements, as to: (1) soundness, (2) penetration, (3) fusion, (4) contour, (5) minimum of overlap, (6) minimum of undercutting.

3. In many cities which have not adopted welding codes the superintendent of buildings may issue permits to owners who have employed engineers whose record of experience has proved them to be competent for the design and supervision of such welded structures. Such engineers usually file with the superintendent of buildings all records pertaining to the design, detailing, shop and field inspection.

4. It is customary in most cities for the superintendent of buildings to examine visually the majority of welds made, unless special arrangements are made with the supervising engineer or competent inspection organization to report all welds which should be chipped out or burned out (chipped out welds seldom run as high as one-half of one per cent of all welds made).

Inspection Methods. Usually the design of a welded structure will include portions to be fabricated in the shop. All work which is shop welded in whole or in part must be inspected before leaving the plant. Inspection should be made as the work is in progress and there should be a final inspection before the work is shipped. In addition, all shop-welded work should be carefully examined by the field inspector as soon as it is delivered to the building site.

The only method of inspection required by the 114 or more cities having standard welding codes is the visual one. With proper supervision of field conditions it is probably the best method of inspection. An experienced welding operator has no difficulty in meeting the requirements set forth by the various welding codes and whatever special requirements may be imposed upon him by the inspector in the field. An engineer competent to fill the position of a field inspector on a welded structure has no difficulty in determining accurately by the visual method whether or not a weld has been satisfactorily

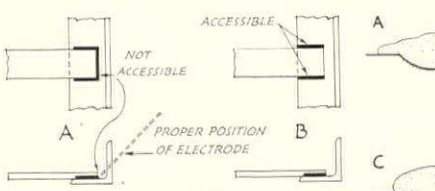


FIG. 5

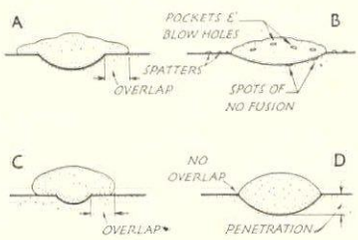


FIG. 7

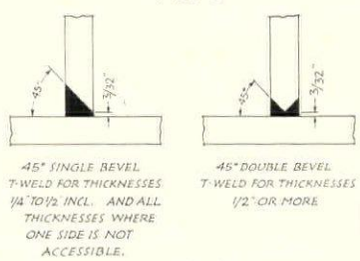


FIG. 6

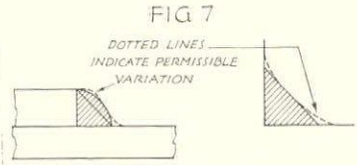
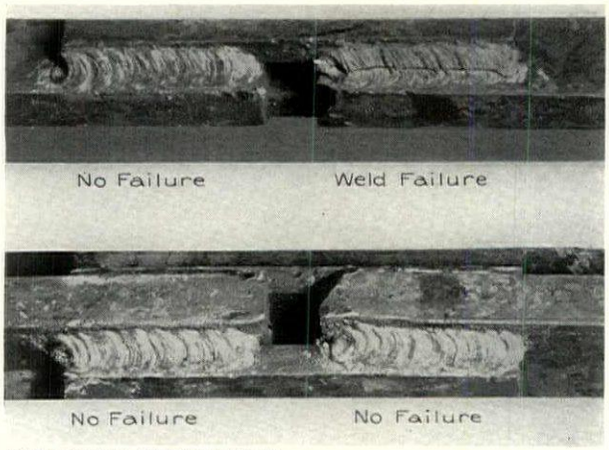


FIG. 8



Photos, Courtesy, General Electric Co.

laid and will develop the strength for which it was designed.

Contrary to a current impression among architects, there is no dearth of competent welding inspectors or inspection service. Several well-known electrical companies maintain schools for the instruction of welding operators and inspectors. The architect who has designed a structure for welded connection need have no fear that it will fail for lack of competent field supervision.

Several test methods have been used in the field inspection of fusion welding:

The Visual Method. The most common visible symptoms of defective welds are, as follows:

1. Fairly flat weld with an appreciable overlap and rounded edges indicates that the welding arc has traveled too slowly, and the parent or base metals were not properly heated to cause perfect fusion. (Figure 7a.)

2. Fairly flat weld somewhat spread out, with more than normal number of gas holes in the surface and spatters of weld metal alongside of the weld, indicates that the arc has been too long or the travel too fast; in this case the penetration may not be deep enough and there will very likely be spots of no fusion, and also many blow holes or gas pockets within a weld. (Figure 7b.)

3. A weld that stands up well but has considerable overlap, with somewhat rounded edges, may indicate that not enough heat has been used, which means that the penetration will be poor. (Figure 7c.)

Figure 7d shows a diagrammatic cross-section through a weld in which penetration and fusion are quite satisfactory.

A crater at any point in a weld, except at its end, is evidence that the arc has been broken and the fillet is not continuously laid, which may indicate a weak spot in the weld.

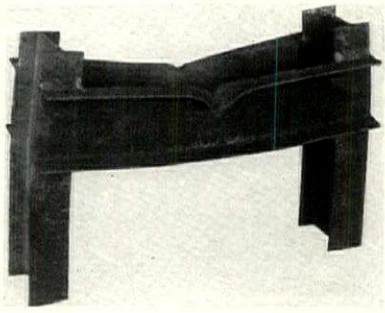
One short and one long leg of the standard weld indicates that the electrode wire has been held at an incorrect angle while welding. Such a weld may fail at the short leg, and must be rejected if the short leg is less than that specified for the weld. Electrod should always be held perpendicular to the poo surface.

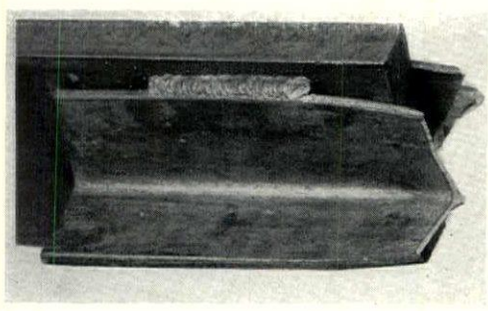
The permissible variations in the contour of fillet welds are shown in Figure 8.

It is most common practice for the supervising engineer to watch the ammeter and voltmeter on the welding machines to observe their steadiness and also to check the amount of current or heat used for the thickness of material and size of electrode in work. For this reason the meters should be conveniently located near the welding operator.

The X-ray method of inspection, due to the nonportability of the equipment involved, is not adaptable to the field inspection of structural steel welding at the present time. A test by the gamma ray method, which is made by portable equipment and like the X-ray test is photographic, is not at the present time foolproof, and is dangerous to operate by any except the most thoroughly experienced. Apparently the electro-magnetic method is reliable.

It largely removes the variable human factor by employing a portable semi-automatic mechanism, but is not yet recommended by all recognized welding authorities. This is partially due to undeniable success of the latter in inspecting welds visually. The electro-magnetic method, however, has been used successfully in many instances and under favorable circumstances and in the hands of a skilled operator it is a rapid, easy method of test, which, if desired, can be photographically recorded. An inspection of one linear foot of weld with readings every half inch requires about four minutes. Some claims are made for the acoustic method, which tests a weld by employing a stethoscope to detect any inharmonic vibration induced by striking the structural steel and the weld metal with a hammer. This method, however, is seldom used.





Tests showing strength of welded joints. Above, tension test specimens of fillet welding. At left, flexure test under concentrated load, no weld failure; and parallel shear test, no weld failure

OUTLINE SPECIFICATIONS

1. GENERAL CONDITIONS. Specify which form of general conditions is made a part of this contract, and any addenda to same which may be required.

2. GENERAL NOTES. Specify notes numbered from 00 to 00 which are also a part of this contract; include also special notes giving definitions of welding terms used.

3. SCOPE OF THE WORK. Specify which work will be shop welded and which will be field welded, and call attention to symbols used on drawings to differentiate them.

4. QUALITY OF MATERIALS.

This section based on recommendations of the American Welding Society.

Structural steel (use Structural Steel for Buildings A.S.T.M. A–9–29).

Electrodes and welding rods: wire used for electrodes or welding rods shall be commercial mild steel wire made especially for this purpose, of uniform homogeneous physical structure; free from irregularities in surface, from hardness, segregation, foreign matter, oxides, pipes, seams, or other defects.

Diameter shall not vary more than 0.003 in. above or below nominal values.

In the hands of an experienced welder, electrodes and welding rods shall show good welding qualities in flat, vertical and overhead welding.

Chemical composition shall conform to the following limits for the uses specified:

	Wire Grade A Hand Welding	*Wire Grade B Automatic Machine Welding*
Carbon	0.13% to 0.18%	Not over 0.10%
Manganese	0.40% to 0.60%	0.25% to 0.45%
Phosphorus	Not over 0.045%	Not over 0.045%
Sulphur	Not over 0.045%	Not over 0.045%
Silicon	Not over 0.06%	Trace

5. APPARATUS. Welding current shall preferably be direct current supplied by generators driven by electric motors or engines having suitable automatic speed regulation. Whether for use in hand or machine welding, generators shall be adjustable for different current values.

6. PERMISSIBLE UNIT STRESSES.

These stresses are the allowable unit stresses permitted in the Code for Fusion Welding and Gas Cutting in Building Construction of the American Welding Society. The ultimate stresses of welds made with bare or lightly coated electrode will frequently vary between 40,000 and 55,000 lbs. per sq. in., and with some coated electrodes between 65,000 and 75,000 lbs. per sq. in.

(a) Welded joints shall be proportioned so that combined dead and live loads and impact, if any, shall not cause the stresses therein to exceed the following amounts in pounds per square inch.

Shear on minimum section of weld metal	11,300
Tension on minimum section of weld metal	13,000
Compression on minimum section of weld metal	15,000

Maximum fiber stresses due to bending shall not exceed the values prescribed above for tension and compression respectively. (b) Stresses in welded joints due to wind only, and combined stresses due to wind and other loadings, may exceed by 33⅓ per cent the values prescribed in the table, provided the section thus obtained is not less than that obtained if the wind force be neglected. (c) In all welded connections proper allowance shall be made for any eccentricities which may occur.

7. WORKMANSHIP. (a) All surfaces to be welded shall be wire brushed to remove all rust, scale, paint, etc. A thin coat of linseed oil may be permitted to remain before welding. (b) All welding operators shall submit evidence of their experience in welding structural steel with the kind of welding to be used in this building, and show ability to make flat, vertical and overhead welds of uniform quality conforming to the requirements of these specifications. (c) After being deposited, all welds shall be wire brushed and shall show uniform section, smoothness of weld metal, feather edges without overlaps, freedom from porosity and clinkers. Visual inspection at edges and ends of fillets and butt joint welds shall indicate good fusion and penetration. (d) After each weld or group of welds has been made the operator shall identify his work with a symbol determined by the foreman (which may be a series of dots made with the welding arc on the parent metal adjacent to the work). (e) When bare electrode is used, arcs shall be maintained at all times as short as each welder can operate same without causing the arc to go out or to contact the parent metal. (f) The following figures for current values are approximations only, intended as a guide to the operator who shall select the size of the electrode, and adjust the current properly to produce welds of good quality as herein specified:

Electrode Diameter (Inches)	*Amperes Hand Welding*	*Corresponding Plate Thickness*
1/16	50– 75	Up to 3/16
3/32	75–100	Up to 1/4
1/8	100–150	1/8 and up
5/32	150–200	1/4 and up
3/16	175–225*	3/8 and up
1/4	200–400†	3/8 and up

* For coated electrode 175–320.
† For coated electrode 200–500.

The same electrode may be used with various thicknesses of plate, but thicker plates require heavier currents. Current values for machine welding may exceed those specified above, but machine welding shall, if required, meet qualifications for welders hereinafter specified. (g) All welds too large to be deposited in a single straight pass, done by hand welding, shall be made with the proper method of weaving to insure suitable penetration and fusion with the base metals. (h) Fillet and butt welds up to and including 3/8 in. may be made in one pass or layer, such welds up to and including 5/8 in. may be in two passes or layers, and up to and including 3/4 in. may be made in three layers. (j) In assembling and during welding the component parts of a built-up member shall be held by sufficient clamps or other means to keep parts straight and in close contact.

8. QUALIFICATION OF WELDERS. Under this heading specify that all welding operators may be required to weld sample joints in the manner and procedure outlined by the American Bureau of Welding (The American Welding Society), and specify that the welding contractor shall be required to pay for these tests.

9. PROPORTION OF PARTS. In the event that the structural drawings do not show all details required for the complete erection and welding of the steel work, a complete description of the manner and means of all such undetailed work should be incorporated.

10. PROTECTION OF STEEL. Structural steel before being welded shall not be painted. If it is to be entirely shop welded and erected only by bolting or riveting, one shop coat of paint should be called for to be applied after welding, and one field coat after erection. Steel to be field welded should receive one coat of linseed oil after shop welding, and after erection and welding it should receive two coats of acceptable metal protection.

11. MISCELLANEOUS. Follow the above with the usual and customary provisions of a general nature pertaining to storage of materials, removal of rubbish, workmen's compensation insurance, equipment for the protection and comfort of welders, etc.

NOTE: *The author gratefully acknowledges assistance in the preparation of this section from Frank P. McKibben, consulting engineer.*

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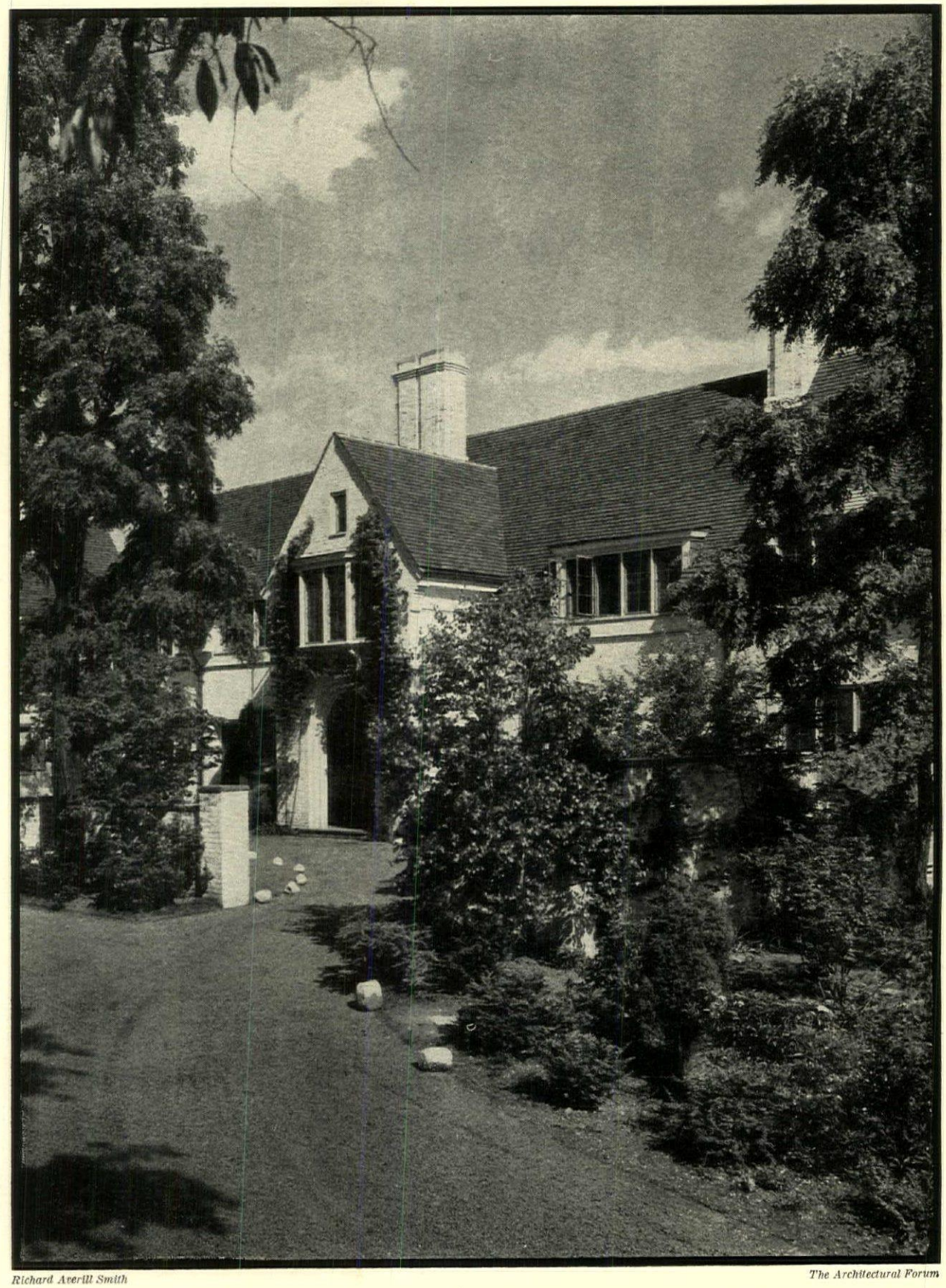
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Richard Averill Smith — *The Architectural Forum*

HOUSE OF HERBERT L. PRATT, JR.
MILL NECK, LONG ISLAND, N. Y.

RICHARD H. DANA
ARCHITECT

THE

ARCHITECTURAL

FORUM

VOLUME LVIII MARCH, 1933 NUMBER THREE

DESIGN FOR LIVING

BY KENNETH KINGSLEY STOWELL

THERE need be no apologies, except the courtesy of recognition, to the author of the popular current play with the title identical with that of this brief article, for Noel Coward has hit upon the slogan of the modern architect for the name of his amusing triangle play (a triangle, by the way, which resolves itself into three closely drawn parallel lines).

In designing the country house the solution lies likewise in three parallel lines and the problem is to keep them harmoniously drawn in the same direction, not off at tangents of discord. The three that cannot get along without each other in our country house are the lines of Function, Form and Finance. Just now Function holds the center of the stage, the matinée idol of the architectural philosophers. Form is fickle; she has been lauded and pampered all too long by the audience (thanks to the false allurements of the "make-up" art the architect has achieved). She should of course follow Function and be guided by him entirely, never being selfishly and willfully beguiling for her own sweet sake. — And then Finance, the arch-villain, is the supporting cast, for without him both Form and Function languish and there is no plot.

But we must not carry an analogy too far, nor investigate too thoroughly its validity. Such myopic pains spoil many a pleasant interlude.

Our chosen title still is fitting for the introductory comments to a Reference Number devoted to the country house, the suburban house, the small or large estate. Perhaps as architects we have been "living for design" instead. But then, it was the way we were brought up in the profession. If the admonition, "design for living," ever needed reiteration, it does in connection with domestic architecture.

The almost universal desire of every head of the house is for a country home, a home of his own, whether he aspires to a snug cottage on its tiny lot or a mansion on a vast estate. The architect's part is to design for living — for the particular and peculiar way of living of the family involved — for a better way of living where it is possible for him to provide for it. His planning, his structure, his equipment, his forms and his colors are all designed to enhance the ease and the beauty of living. The art of architecture is the handmaiden of the art of living.

But the ways of living of individuals and classes differ, not only being influenced by the fashions and manners but modified by the circumstances of the times.

Many factors are influencing the design of the country house of today and that of tomorrow — influencing its location, its size, its plan, its construction, its equipment and its finish. First, a change in point of view, concept, approach, a new philosophy which examines more carefully the *raison d'être*, a more critical analysis of use and fitness-for-use. Secondly, change in purposes and desires of home owners. Thirdly, changes in physical equipment and circumstances which make possible the satisfaction



F. S. News Letter, 1887



Courtesy, Metro-Goldwyn-Mayer

Carpenter Gothic of the Eighteen Eighties vs. Modern Simplicity of the Nineteen Thirties. Two houses in California typifying the design difference a half-century makes. Right, own house designed by architect Cedric Gibbons, Santa Monica Canyon, Calif., Douglas Honnold, associate architect

of the desires. And finally, economic factors which are frequently the determining influences. The trends are determined by mixtures philosophical, social, physical and mechanical, and economic developments.

The present economic situation is a factor in plotting the trend of country house architecture. It seems as though there will be fewer elaborate and extravagant country houses of the great estate type built in the next few years. Aside from its effect on the volume of country house architecture, the great "show place" is losing caste and value, socially as well as financially. Any number of such unwieldy, elaborate estates are on the market for a small fraction of their reproduction cost at today's prices, to say nothing of their original cost.

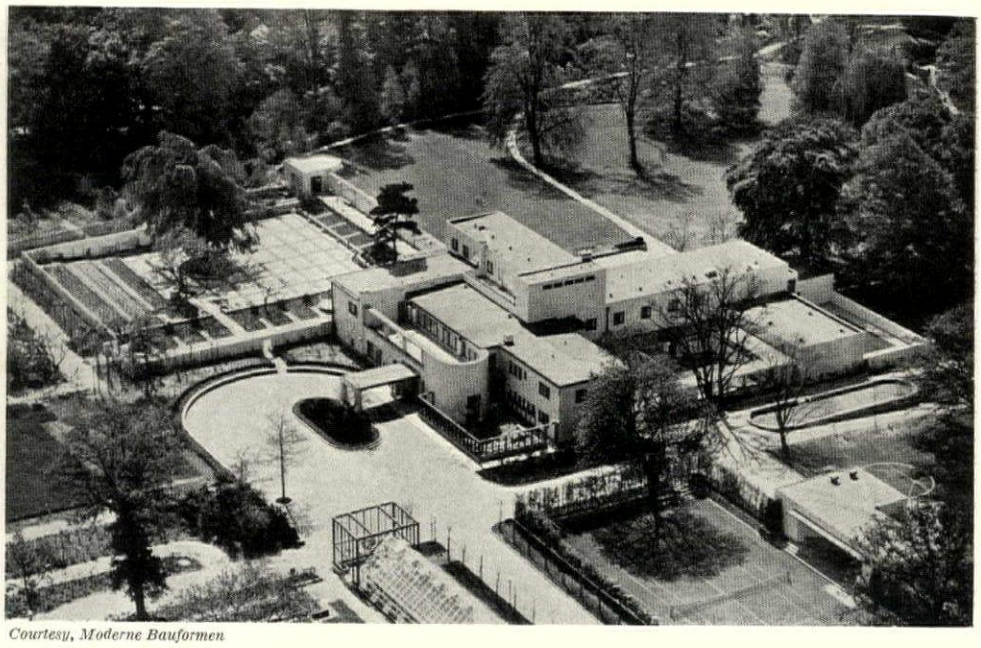
The type of country house that will be built will be that designed for fuller living rather than for its impressive appearance. These new country houses will vary in size from modest small suburban homes to large and perfectly appointed houses for larger households and for the entertainment of guests, but in either case the emphasis will be on what one *does* indoors and out. The contribution the house and grounds can make to the convenience and pleasure of these activities, rather than on what the building "looks like," will guide both owner and architect.

The type of country house developed with this attitude of mind will grow in favor and in usefulness. It will have enough land for outdoor living, with room for sports and games, for gardens for quiet and retreat, for privacy; moderate in size, an acre or a few acres. It must satisfy that desire to get away from the congestion, confinement and confusion of city life. This escape to a more natural and less tense mode of life is made possible by the increased ease and speed of transportation, the automobile, railroad commutation and bus services. The possibilities of living in country homes at some distance will increase as the current decentralization of industry and business increases. The movement from our city canyon dwellings is augmented by the fact that the increase in the value of land, and consequently heavier taxes, makes much farm land near cities unprofitable and consequently more and more of this land is being purchased for small country estate use, by a more modest landed gentry.

The mushroom suburban towns are developed into "satellite towns" around the large cities. They are rapidly becoming acceptable shopping and entertainment centers of such quality that trips to the big city are less necessary and frequent. Then, too, the schools maintain bus services so that distances mean less and are really no deterrent to semirural living. Branch stores provide their own rural free delivery of goods, and shopping by telephone is fostered.

All factors thus seem to favor the further development of country house living. They do so because of the demand, the desire for the advantages of health, recreation, family life and the pleasant use of leisure which the country house affords.

Developments in equipment have made available in the outlying districts all the physical conveniences of city living. Electric light and power are available in every country house community, to be harnessed to do all the chores, from pumping the water to washing the dishes. The sanitation of the country house is as expeditiously maintained as in the city. Water and sewer lines are constantly extended, but even where they are not the automatic pumps and pressure tanks assure supply and the disposal is



Thoroughly modern country house designed to provide every facility for living to the full. Architect, Professor Martin Elsaesser

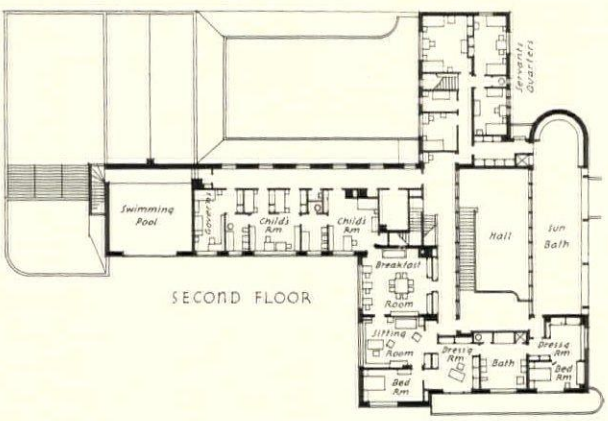
Courtesy, Moderne Bauformen

just as efficient. The telephone keeps one in touch with neighbors and town, the radio brings one music, drama, news, advice, advertising and whatnot. Isolation is no longer a concomitant of country house living. The Machine Age has altered that, and will (or should) eliminate long working hours, thus providing more time either for getting to and from work (making it possible to live farther from town) or for indulging in leisure pastimes at home.

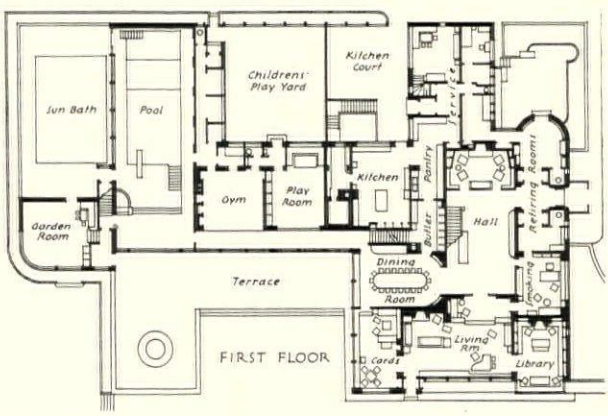
Increasing leisure brings its problems. It will influence the plan and design of the country house by increasing the number of functions which the house must serve. Leisure brings with it desires for more and for different activities than were housed at home before. There is the growing vogue of outdoor sports and games, and outdoor living. Porches and terraces are used constantly throughout the day and evening, as the centers of both home and social life. They require as careful planning for shade, for prevailing breeze, for protection and privacy as any portion of the house. The porch or deck at an upper floor level will continue to grow in popularity as a play, exercise and recreation space, for it is usually more dry and cool. It is a far cry from the sleeping porch of the Nineteen Hundreds to the sun deck of the modern house.

Gardens, tennis courts, squash or handball courts, archery greens, clock golf courses and even croquet and bowling greens are increasing in vogue, are part of the design for living, active living, engendered by increased hours of leisure, and they are part and parcel of the country house of our enlightened age.

The new or increased demands for wisely using our time at home are also tending toward a more informal, more flexible way of living, and consequently toward houses which provide more freedom,



Second floor plan arranged for convenience of the family; large sun deck, bedrooms minimized, dressing and bathing rooms increased in facilities



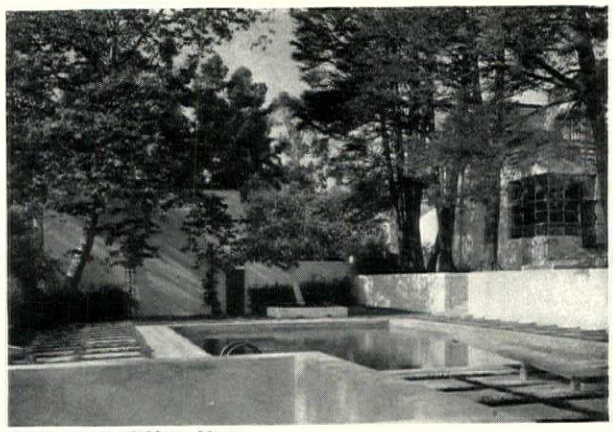
The remarkably comprehensive first floor plan arranged for every social, cultural and recreational activity. The quintessence of the functional country house

more varied and more convenient uses of rooms. Planning by function must perforce supersede planning by formula. The conventional plans of the past were probably adequate for the activities of the time, which we think of as more conventional, quiet and sedate. But such plans prove inflexible or cramping to the uses of today, too stiff, too formal, too downright inconvenient, just for the sake of appearances. The trend seems therefore to be toward an informal plan directly related to the activities of the owner, his family and his guests. Efficiency in providing convenience and amenities is now the criterion. The house must grow from its plan, not from the "charming perspective" of the exterior, and the home owner is increasingly critical on this score. Only by a thorough understanding of the owner's interests, hobbies and habits can the country house architect contribute the maximum for the owner's investment in a "machine for living," which he may still prefer to call "Home."

Conservatives who detest the connotation of the word "machine," and moderns who shrink from the suggestion of "Home Sweet Home," have come to believe that there is nothing in the nature of either that prevents the two from being incorporated in one thoroughly delightful place to live.

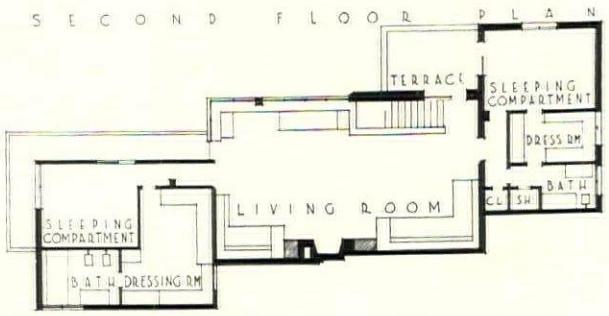
And now what of style, of the appearance inside and out? We are still in an eclectic age stylistically. The current vogue for "modern" design abroad may grow rapidly here, but the American, in spite of his "rugged individualism," is conservative and will not "go modern" until it is the thing to do, *i.e.*, until it is "being done." It is being done. The recent work of the Germans, the Austrians, the Dutch, the French and the Scandinavian architects is being shown (and copied) more and more, and the style "international" is becoming another source for the eclectic.

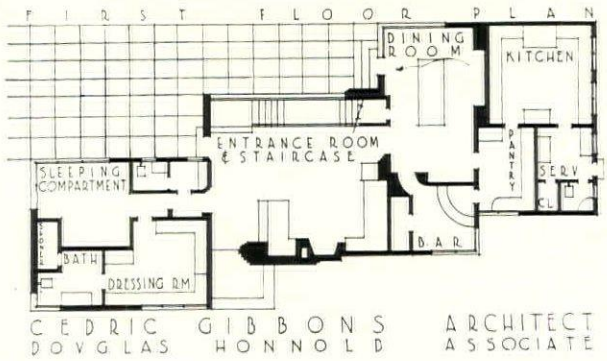
However, the bareness, barrenness, unfamiliar boxiness of much foreign work are repugnant to all but the most intellectual Americans, and until there is developed more graciousness, more pleasing relationships of parts, it is likely to remain unacceptable to the rank and file. The influence of the pre-war style in the elimination of the unnecessary, of the superfluous, is being felt and is reflected in the growing simplicity of design in all American domestic architecture no matter what the so-called style. The modifications which will be made in forms of the new rationalized architecture will certainly conform more closely than at present to the sensibilities and even the sentiments of the discriminating public which, after all, is governed in its reactions largely by its emotions, its likes and dislikes, its prides and prejudices, rather than by its reason or intellect. In plan-convenience and in equipment-efficiency the pragmatic test rules; in design the herd-instinct and the dictum of fashion determine the design for living — and for the country house.



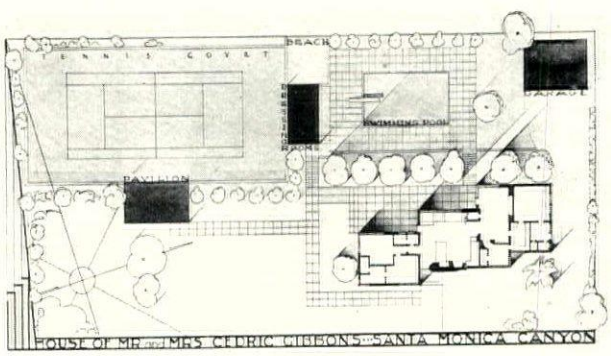
Courtesy, Metro-Goldwyn-Mayer

The swimming pool as an adjunct to the outdoor living is growing in favor, and is here a major feature of the plan





The unsymmetrical plan is typical of the country house designed for living. Bedrooms are characteristically smaller when adequate dressing rooms with large wardrobes are included





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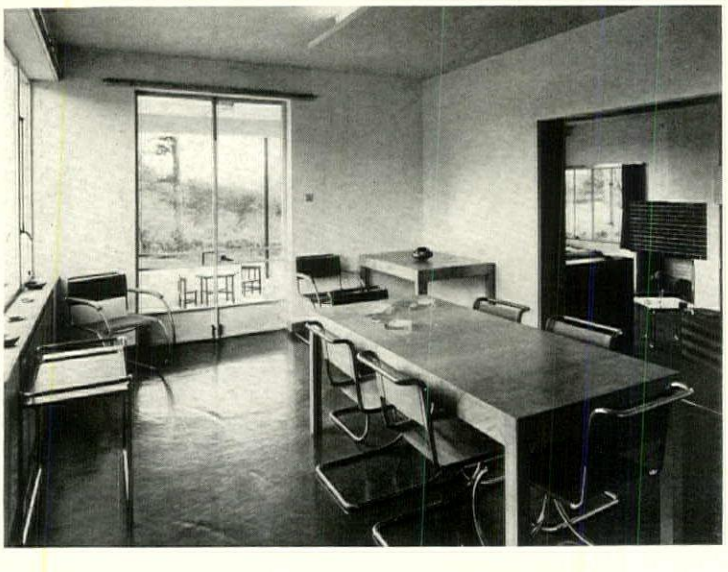
House of William B. Curry, Devon, England — *Howe & Lescaze, Architects*

SIX COUNTRY HOUSES

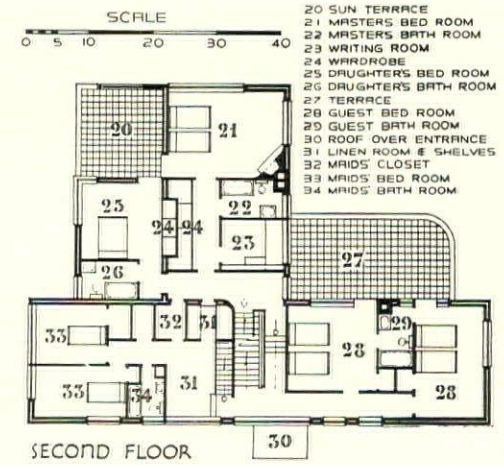
REPRESENTING THE WORK OF

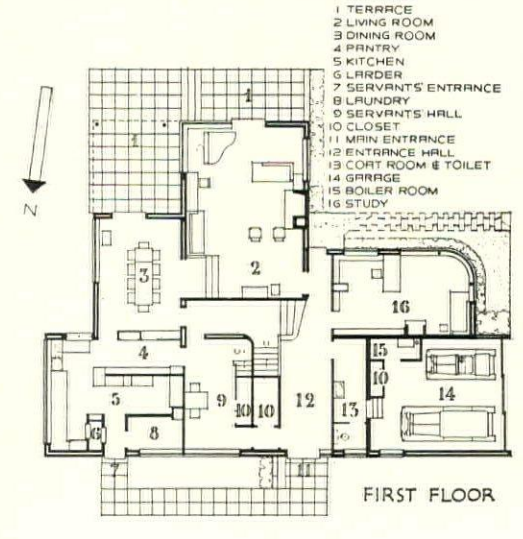
HOWE & LESCAZE
DWIGHT JAMES BAUM
WALDRON FAULKNER
JAMES C. MACKENZIE, JR.
RICHARD W. MECASKEY *and*
JOHN CRAIG JANNEY, *Associate*
ELECTUS D. LITCHFIELD











Throughout the design of this house the utmost simplicity and directness have been attained in every detail. The large expanses of glass in the windows and doors flood the rooms with light. The window drapes are mounted over the windows to control sunlight. The artificial lighting in the dining room is indirect over the table with a simple reflecting panel. The same type of general lighting is obtained by a similar panel in the living room, shown opposite. The kitchen has been carefully planned and equipped to function smoothly with a minimum of effort



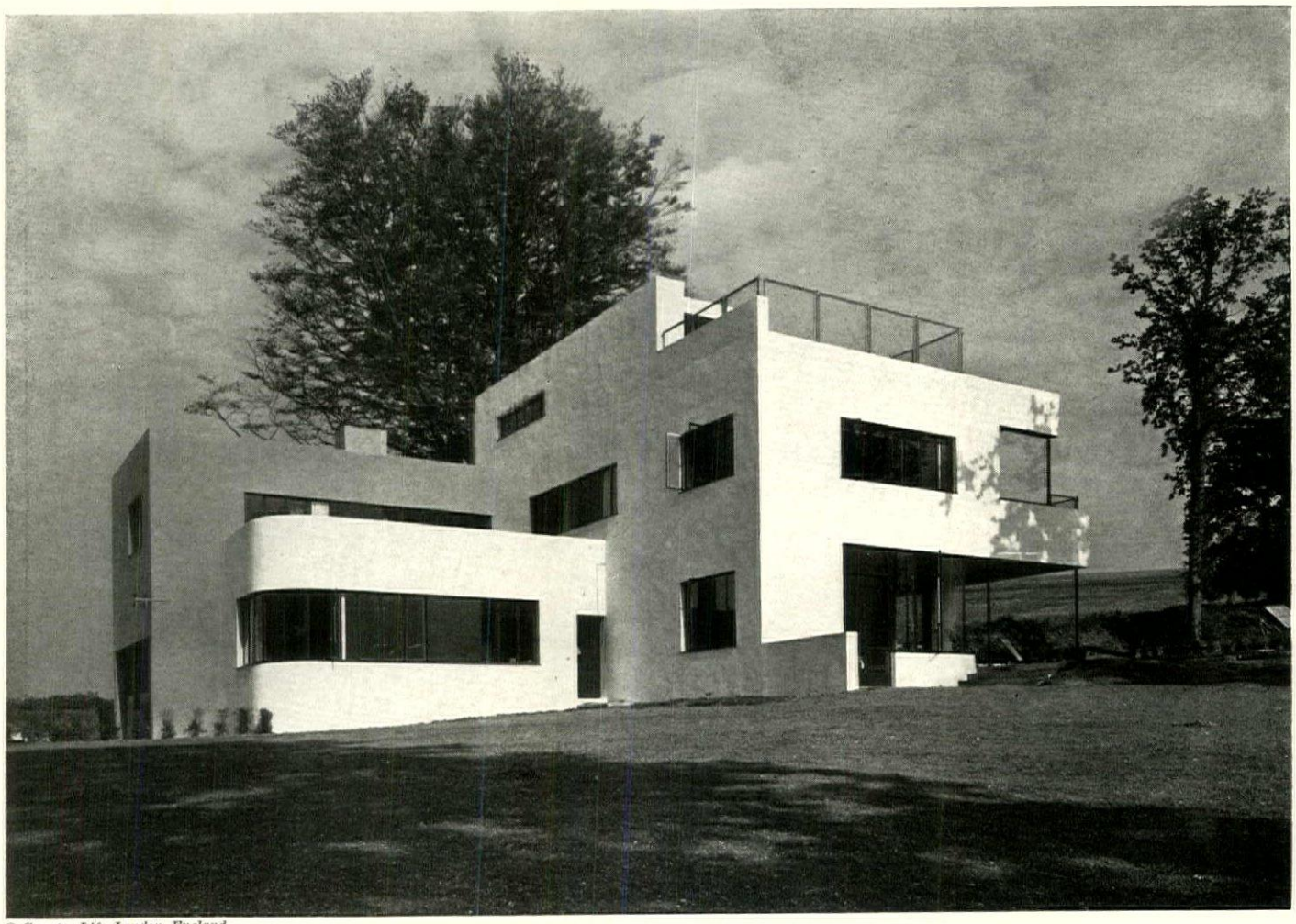
Photos © Country Life, London, England

HOUSE OF WILLIAM B. CURRY

DEVON, ENGLAND

HOWE & LESCAZE, ARCHITECTS

This residence of the headmaster of an English country school is built on a 1,000-acre estate that is devoted to scientific rural development and educational experiment. Despite the fourteenth century character of the estate's main building, Dartington Hall, it was felt that no effort should be made to conform to that style, since the house was to serve the needs of a modern family. The architects and owner agreed that the house should express the ideas of the occupants, and at the same time obtain the maximum comfort provided by modern mechanical equipment. Oriented to take full advantage of the surrounding English countryside, all the main rooms have at least two exposures. The roof is used as a terrace, partly sheltered and partly open to the sun. Built on concrete footings, the walls are of the Coventry type, 4½ in. brick walls, 3 in. apart, bonded together with galvanized ties. The walls are stuccoed and painted, one section being blue and the other white. The floors are of concrete slab construction, and the terraces over the study and on the roof over the second floor are framed with concrete beam and slab construction, a system well adapted to this type of building



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Since the roofs are used as terraces, their construction is of particular interest. On top of the concrete roof slab 2 in. cork insulation has been laid, with cinder concrete fill to provide proper draining. On top of this a bonded, built-up roofing has been placed which runs into the hollow part of the wall, then up 12 in. and into the exterior brick wall. A 6 x 6 quarry tile has been laid with a cover base flush with the brick. Those roofs not used for terraces have a slag finish. The coping on the parapet is formed by running a 2 in. coping to the inside of the wall with expansion joints 3 ft. apart. The windows, which swing out, are of the stock metal type, 20 in. wide, and the glass doors, 2 ft. 6 in. wide, are hung on pivots and swing in. In the interiors, all wardrobes, closets, book cases, metal doors, etc., are of the flush type and door frames are of metal, so that all trim is eliminated. The hardware throughout is chromium plated and the plumbing fixtures are of white enamel. The steam heating system has panel radiators under the windows, except in the bathrooms where the radiators are the tubular type



Gottscho

HOUSE OF S. C. ALLYN, DAYTON, OHIO

DWIGHT JAMES BAUM, ARCHITECT

Amid the formal landscaping of this suburban estate, Dwight James Baum has set down a distinctly formal Georgian house. With a broad, brick-paved terrace at the rear and a sun porch at one end, the house is planned for livability without and within. The house is of solid brick construction, on a concrete foundation. The Flemish bond of the brick is outlined in white marble, supplemented by wood trim painted white. The roof is of slate, purples and greens, with copper flashing. The same adherence to precedent and good taste marks the design of the interiors. Gold painted cornices and decorative moldings add to the formal character of the living room and dining room, and scenic murals lend a distinctive note to the breakfast room. The library is appropriately paneled in dark oak. Oak flooring is used throughout the living quarters, except in the entrance hall which has a marble tile floor. The hall is noteworthy for the finely designed wrought iron handrail of the semicircular staircase and for the excellence of the specially designed woodwork



Gottscho



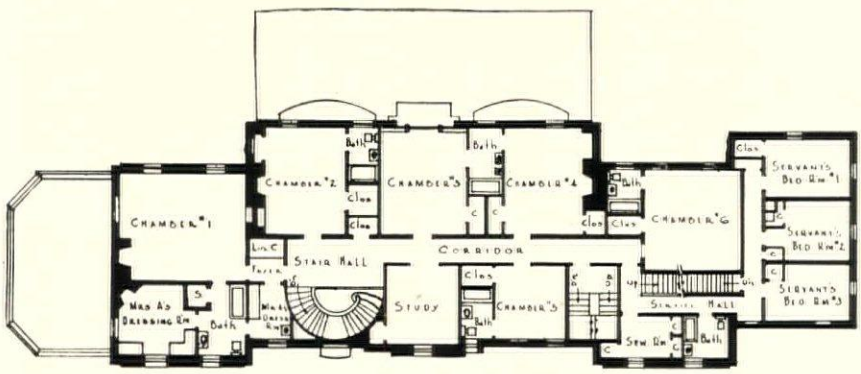
Gottscho

HOUSE OF S. C. ALLYN

DAYTON, OHIO

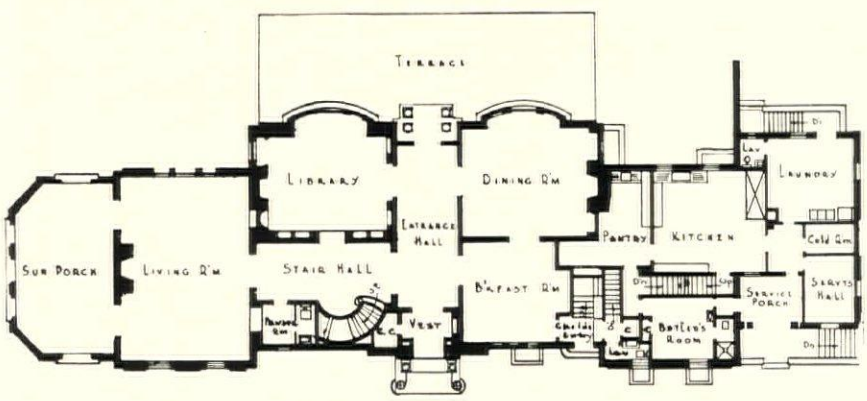
DWIGHT JAMES BAUM

ARCHITECT



· SECOND · FLOOR · PLAN ·

SCALE



· FIRST · FLOOR · PLAN ·

SCALE

The spaciousness of the ground floor, accentuated by the long vista that extends unbroken from the living room through the hall to the dining room, is particularly well adapted to the social functions of the occupants. The grouping of the rooms on the second floor lends itself well to the entertainment of house guests as well as to family privacy



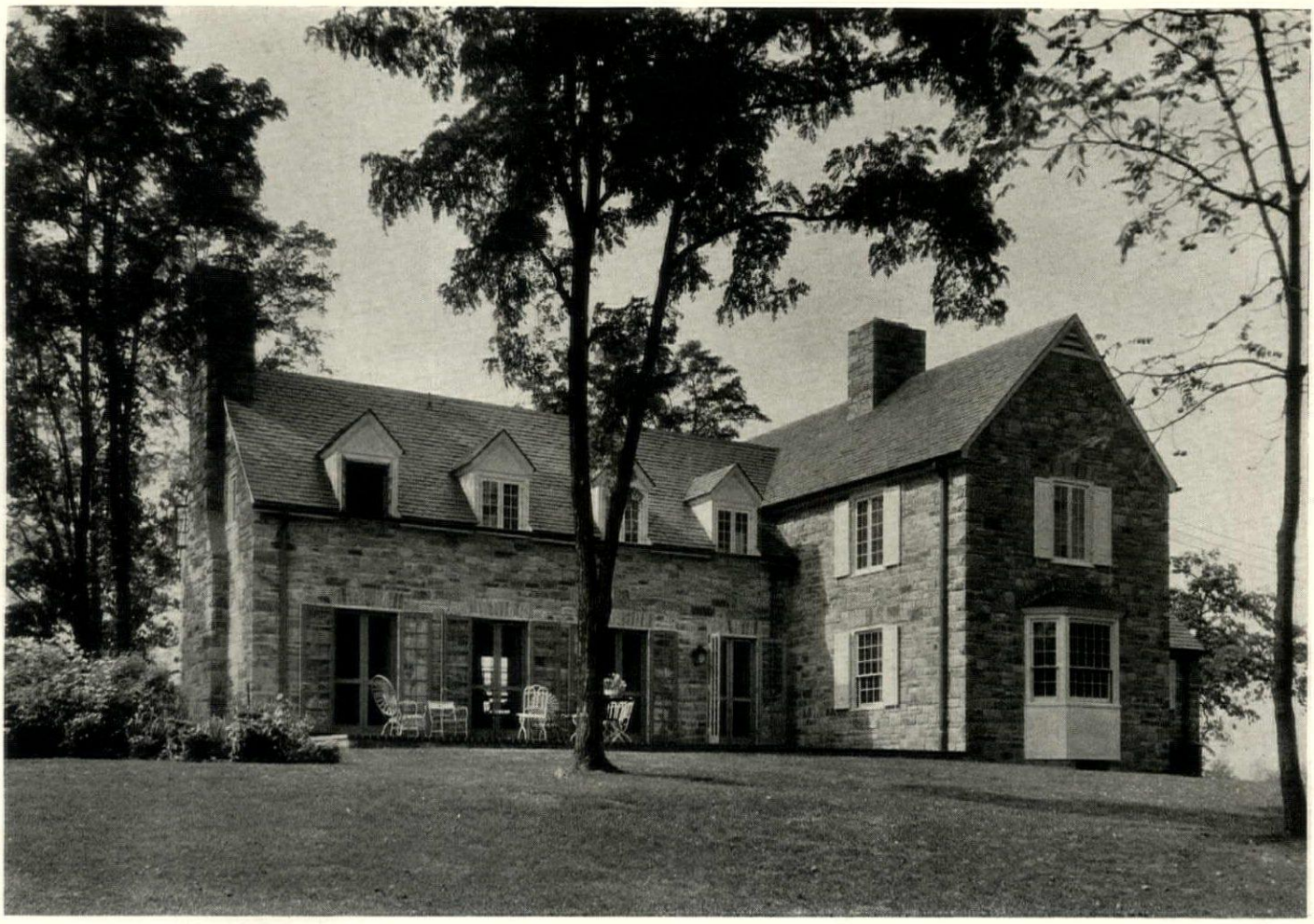
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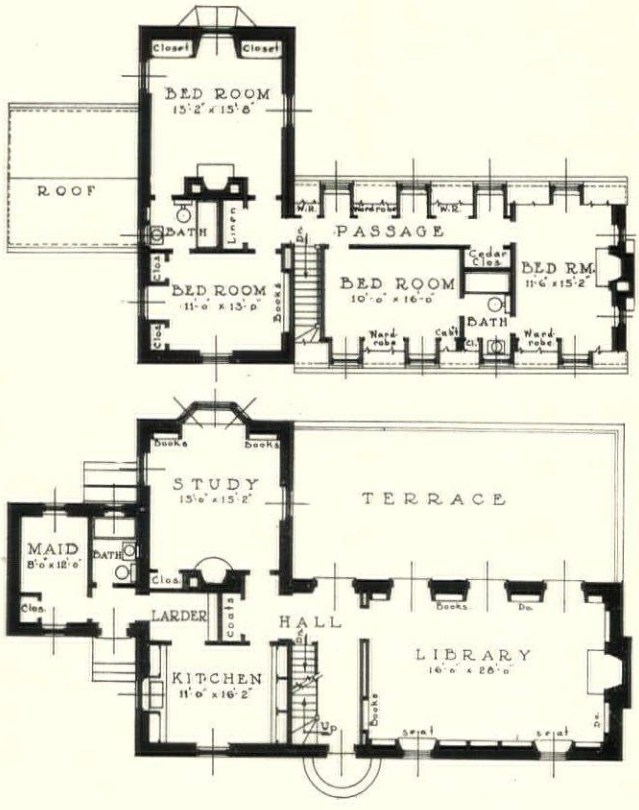
HOUSE OF MRS. DAVID L. WING

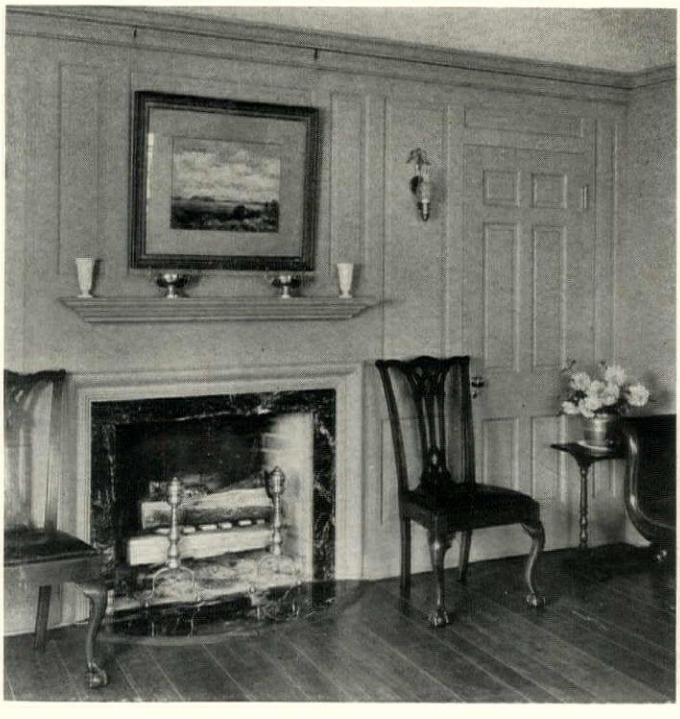
GREENWAY, FAIRFAX CO., VA.

WALDRON FAULKNER, ARCHITECT

LOCATED in a section of the country that is marked by its historic buildings, this Colonial house is in harmony with the Virginia countryside. The owner is head mistress of a school, and the absence of a dining space in the plan is accounted for by the fact that meals are served in the living room when guests are present and otherwise in the study. The plan is well adapted to the social duties of a school's head mistress as well as to the personal taste of the owner. The house is of stone veneer construction built on a concrete foundation; the walls are of 12 in. stone, felt insulation, studs, wire lath and plaster; floors are oak throughout, with trim of white pine. The windows are of wood, both casement and double hung. Heating system is of the vapor type, using oil as fuel; brass piping is used for the plumbing. The house has a total cubage of 47,000 cu. ft.

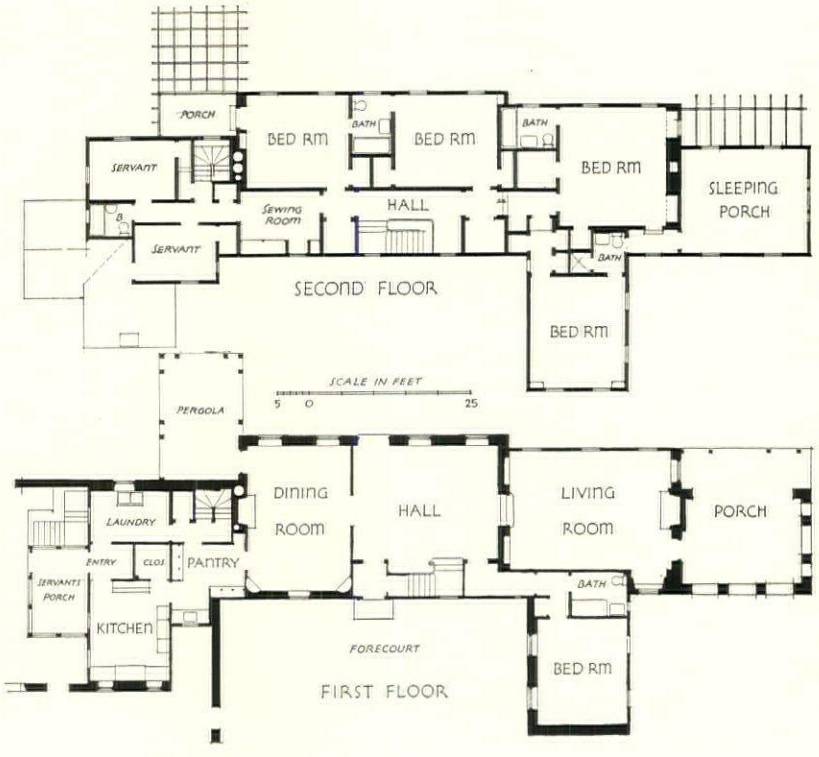


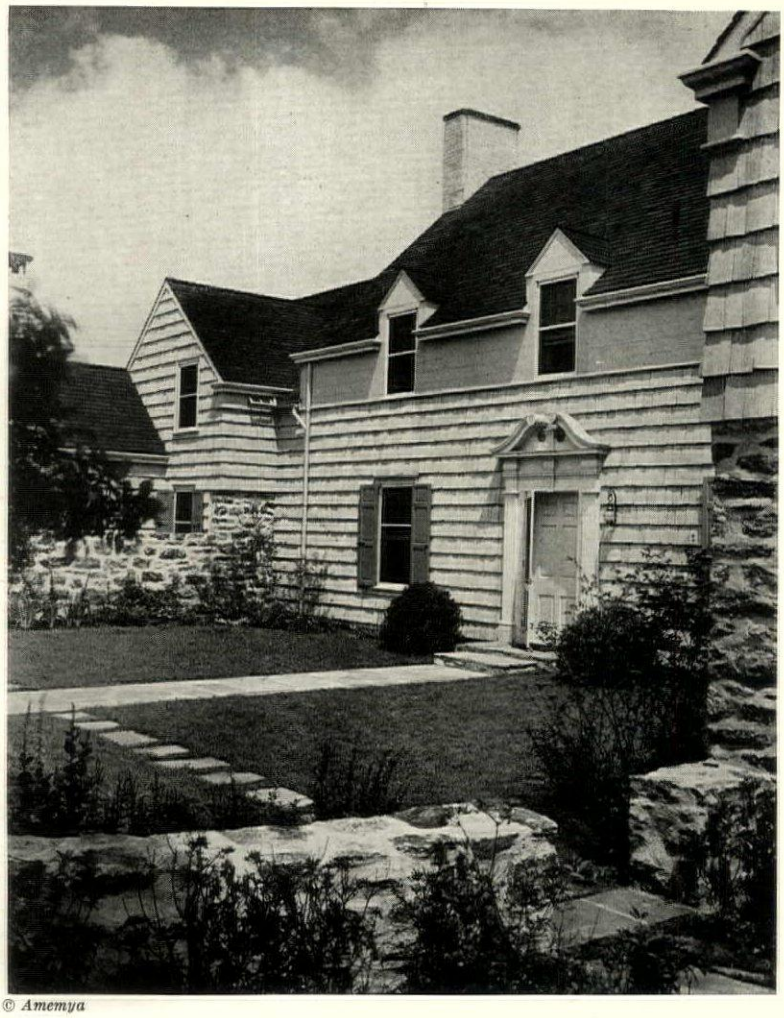

Closet
Closet
BED ROOM
15'-2" x 15'-8"
ROOF
BATH
Linen
PASSAGE
W.R.
Wardrobe
W.R.
Cedar Clos.
BED ROOM
11'-0" x 13'-0"
Clos.
Books
BED ROOM
10'-0" x 16'-0"
BATH
BED RM.
11'-6" x 15'-2"
Ward robe
Cab.
Cl.
Ward robe
Books
Books
STUDY
15'-0" x 15'-2"
TERRACE
MAID
8'-0" x 12'-0"
BATH
Clos.
Clos.
LARDER
Coats
HALL
Books
Do.
KITCHEN
11'-0" x 16'-2"
Up
LIBRARY
16'-0" x 28'-0"
Books
seat
seat
Do.





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PORCH
BED RM
BATH
BED RM
BATH
BED RM
SLEEPING PORCH
SERVANT
SEWING ROOM
HALL
SERVANT
BATH
SECOND FLOOR
BED RM
SCALE IN FEET
5 0 25
PERGOLA
DINING ROOM
HALL
LIVING ROOM
PORCH
LAUNDRY
ENTRY
CLOS.
PANTRY
SERVANTS PORCH
KITCHEN
BATH
FORECOURT
BED RM
FIRST FLOOR



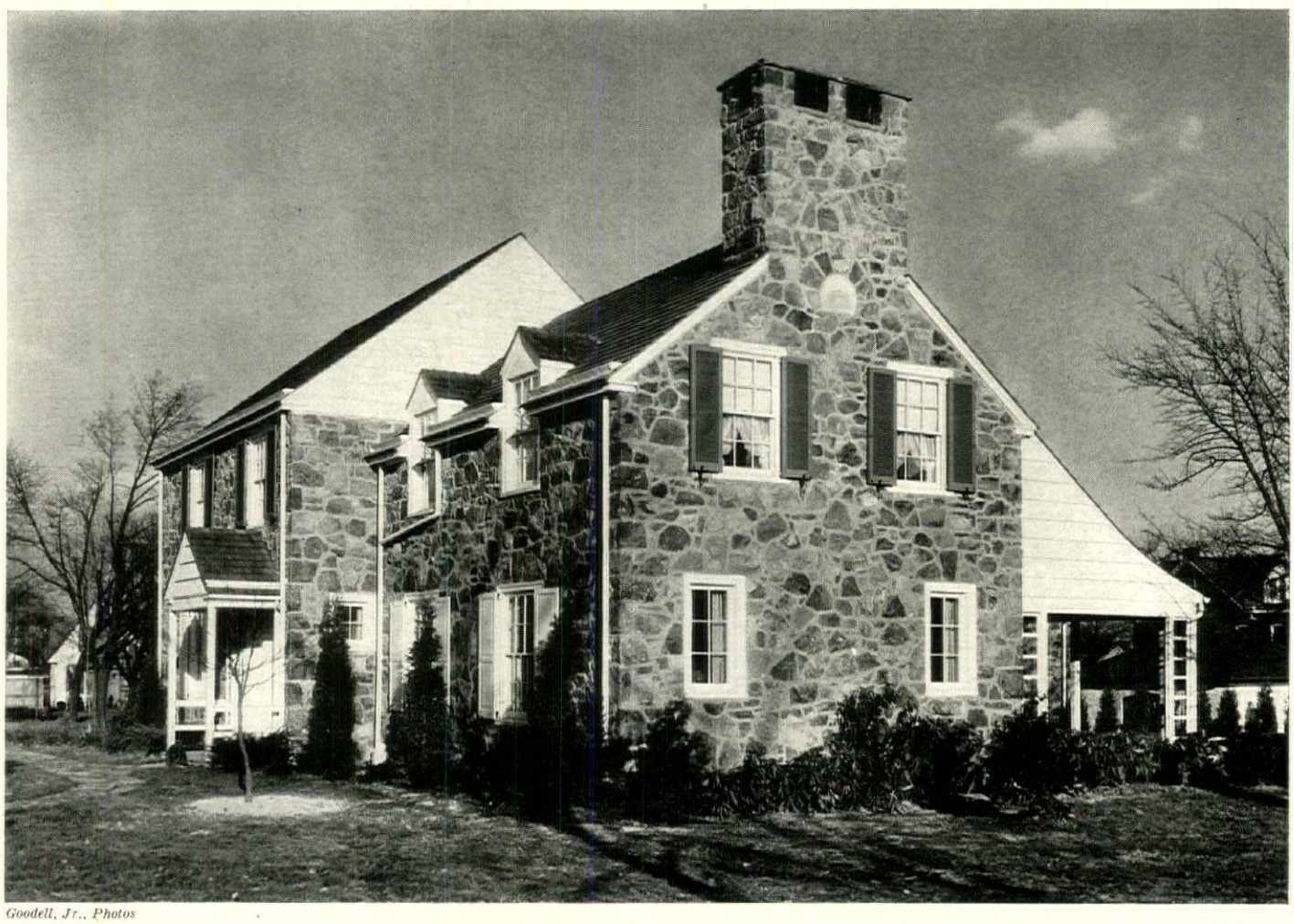
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HOUSE OF CHESTER W. CUTHELL

SOUTH NORWALK, CONN.

JAMES C. MACKENZIE, JR., ARCHITECT

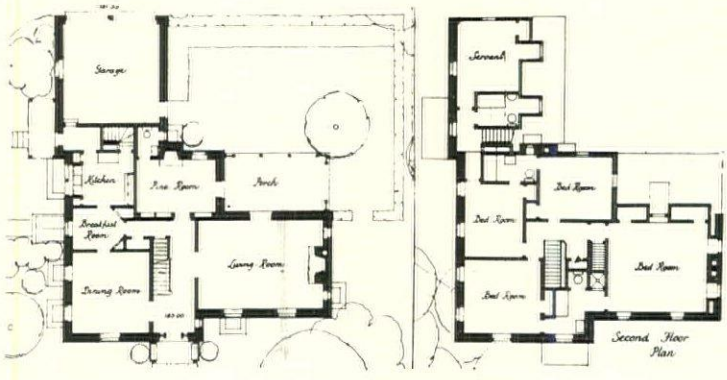
Overlooking Long Island Sound, in a town that is rich in early American tradition, this house owes its character to those traditions as well as to the rugged quality of the surrounding country. Without disturbing the natural informality of the land on which the house was built, the architect has been able to weld the house to the ground. With exterior walls of local stone and hand-split shingles, the house is of ordinary wood stud construction. The roof is also of wood shingles, stained dark brown. The windows are of wood, double hung and painted white, and the shutters are painted apple green. The doorway and other exterior trim are painted white. All the interiors are finished in typical Connecticut Colonial style, with random oak flooring and papered walls, with the exception of the living room, which has walls of painted pine. The heating plant is a two-pipe vapor steam type, with an oil-burning furnace.

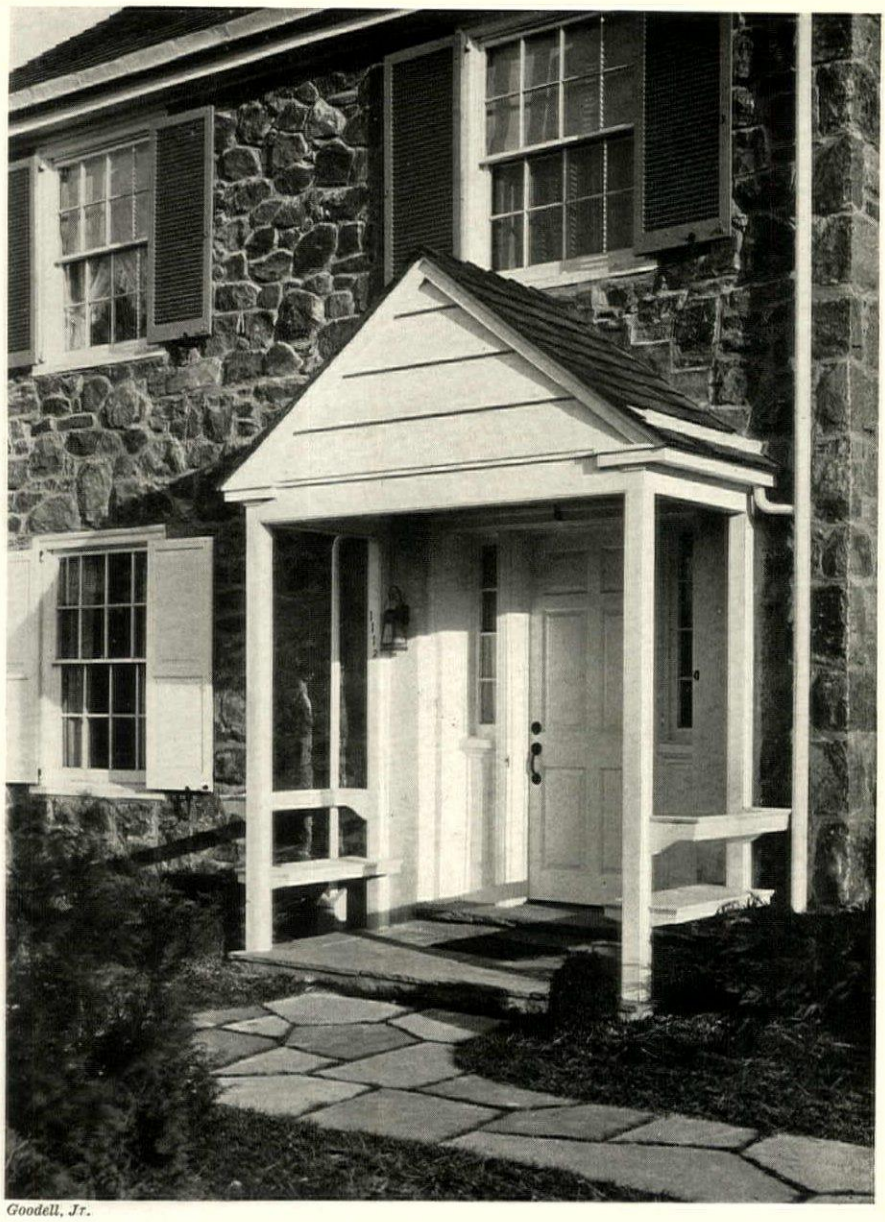


Goodell, Jr., Photos

The Pennsylvania farmhouse in stone is the precedent for many Eastern country houses. The type allows informal planning and the natural sequence and arrangement of rooms. The plan provides for a maximum of usefulness





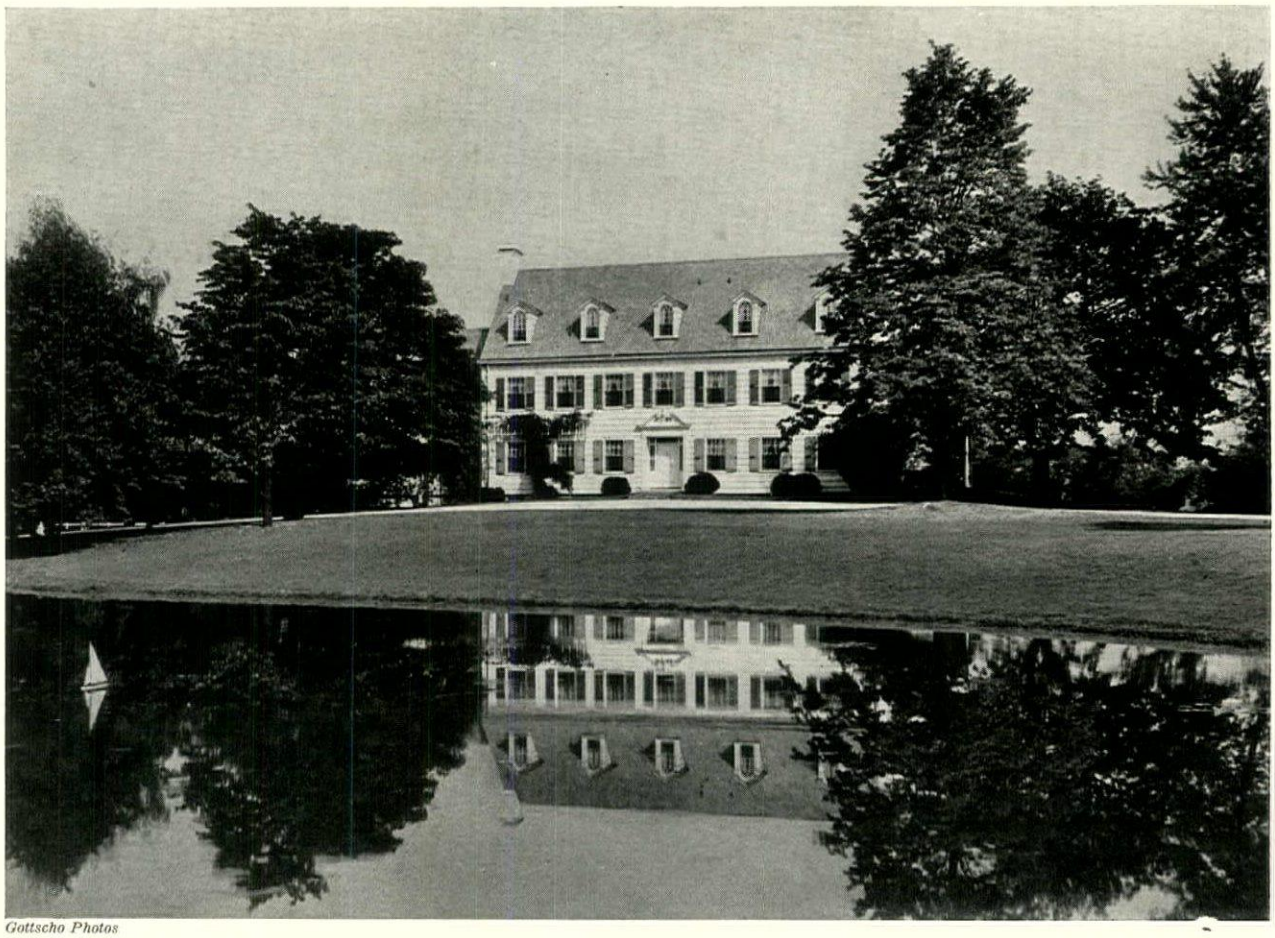


Goodell, Jr.

HOUSE OF WILLIAM T. I. HALL, WILMINGTON, DELAWARE

RICHARD W. MECASKEY, ARCHITECT. JOHN CRAIG JANNEY, ASSOCIATE

Built to sell for less than $15,000, as part of a speculative development in Philadelphia, this house is a forceful answer to the competition offered by speculative builders who operate without benefit of the architect. It is built of solid masonry, with exterior walls of local irregular field stone and clapboard, painted white. The roof is of wood shingles, natural finish. The floors are of oak, random widths, doweled, and the library is paneled in knotty white pine. Other walls are plastered and papered, and the doors and trim throughout are painted. The heating plant is of the hot water type, with an oil burning furnace. . . . By placing the garage on the street side, the necessity for a driveway was eliminated, so that the principal rooms of the house have an outlook over an unbroken lawn and garden at the rear of the house. The garage is connected to the kitchen entrance with a lattice, which screens the kitchen as well as a small drying yard, leaving lawn space around the remainder of the house. Simple base planting provides the transition between stone walls and lawn



Gottscho Photos

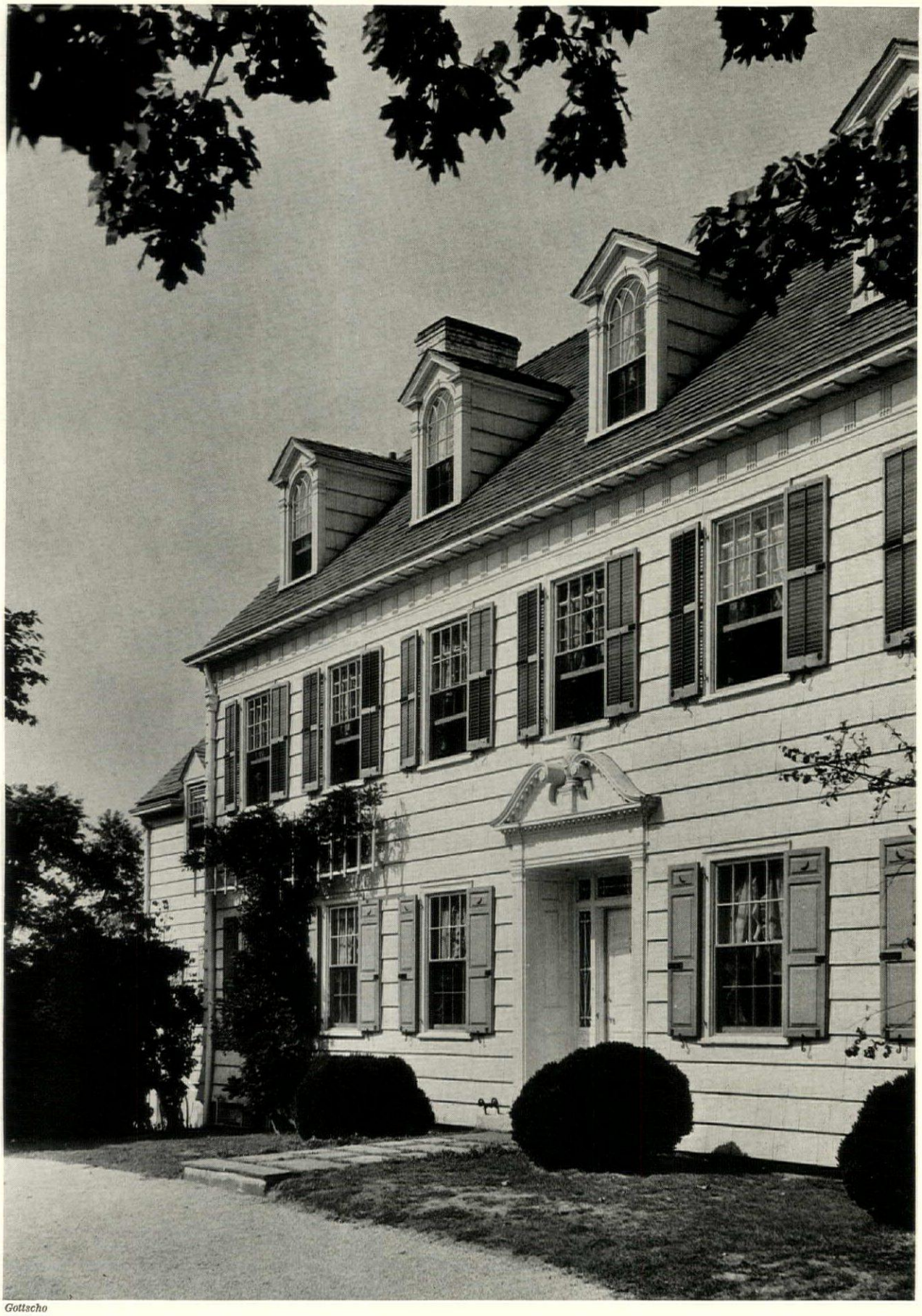
REMODELED HOUSE OF MR. & MRS. EDWARD R. STETTINIUS

LOCUST VALLEY, N. Y. — ELECTUS D. LITCHFIELD, ARCHITECT

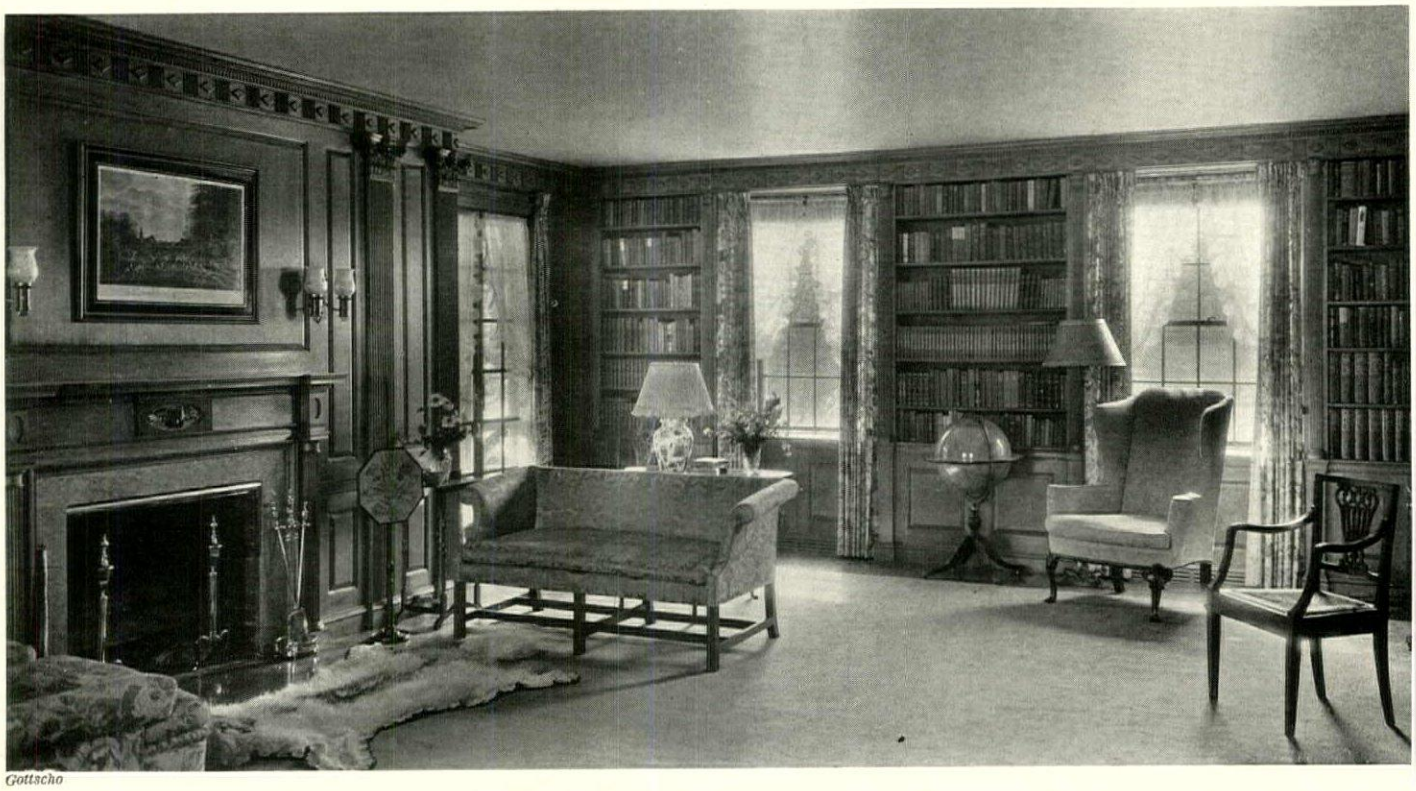


Remodeled from an overscale Colonial type house that was built about 1900, this house has, through the ingenuity of the architect, taken on a more truly Colonial character. It is of typical wood frame construction, with white painted wood shingle exterior, and an asbestos shingle roof that resembles natural wood. The windows are of wood, double hung, with blue-green shutters. Within, all trace of the heavy pseudo-colonial treatment that marked houses of the period has been removed. The drawing below shows the front elevation before the house was remodeled. Sheffield A. Arnold, landscape architect



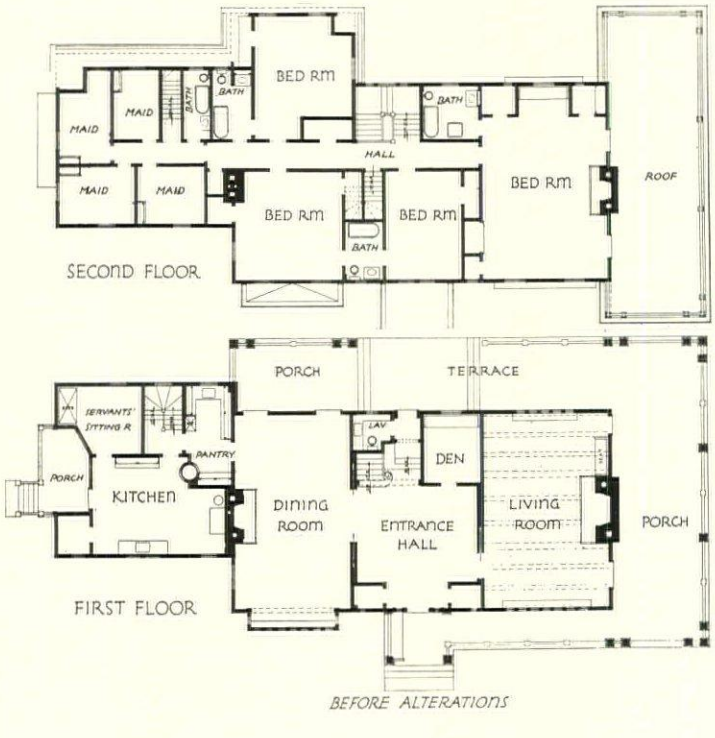


Gottscho

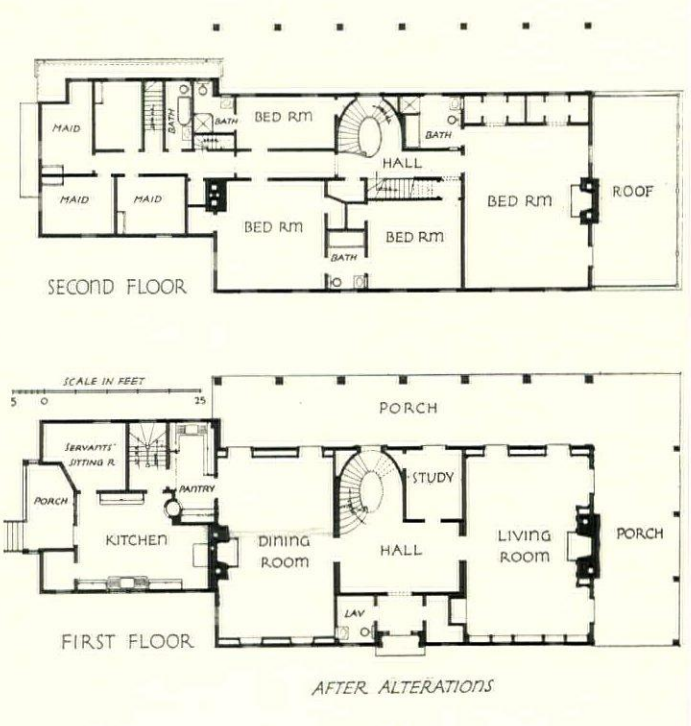


Gottscho

The pressed brick fireplace, beamed ceiling, inappropriate English doors and stained window of the old living room, typical of the old treatment, have been cleaned out. The present living room is pine-paneled, with built-in book shelves at one end. The floors throughout are of oak, and the walls are mostly papered, the designs being in keeping with the Virginia heritage of the owners



BEFORE ALTERATIONS



AFTER ALTERATIONS

THE EDITOR'S FORUM

THIS NEW DEAL

WHAT will the new Administration do to increase employment? What measures will be advanced for the benefit of the building industry?

There is every reason to believe that any measures to increase employment will involve an expansion of government activity in building and in providing credit for construction. The alternative is increased direct dole, the disbursement of public funds without increasing the consumption of goods and without adding one whit to the equipment for either social or governmental welfare. The dole destroys morale; the construction of needed works renews courage and confidence, promotes recovery of purchasing power. What, other than renewed construction, can the government foster that will bring comparable results? The answer is obvious. The reasons have been reiterated and need no further enumeration here.

The R.F.C. is the agency most directly responsible for a program of renewed construction activity. Pressure is being brought to bear to make it possible to start real work. Changes in personnel and procedure are to be expected promptly under the new Administration.

Then, how and when will the R.F.C. act? "The R.F.C. can act like a suspicious banker with two glass eyes, or take up its social responsibility and put men to work," Alfred E. Smith is quoted as saying in urging prompt funds for public works and housing, and in advocating a lower rate of interest for such loans. We expect an announcement of a new and constructive policy in regard to a public works program and R.F.C. procedure. It may be issued before these pages reach the reader. We believe renewed construction is an essential factor in recovery and the logical point of attack in relieving unemployment, and that this is recognized by those who will assume responsibility on March fourth.

There will be no immediate resumption of building unless the government inaugurates it. Private enterprise is powerless to renew construction, as no money is forthcoming from the usual sources. The financial structure in mortgage and real estate fields is changing at a stupendous rate through the wiping out of equities, through foreclosures, and through downward revisions of previous "values." This portends an unprecedented readjustment during which those active in real estate and its financing will have neither time nor money for new work.

The only effective source of renewed building activity is therefore governmental. The pressing question is how, and to what extent, will the new Administration exert its powers in this direction? Then, what can the building industry, including the architects, do to further these efforts?

One of the first things that architects can do, cooperating with the other factors in the industry, is to conduct immediately the Survey of Needed Buildings (advocated on this page in the February issue). The second step would be in publicizing and promoting the needed projects both locally and in governmental circles. To this end active support of the work of the National Committee for Trade Recovery and the Construction League of the United States should be productive of results.

In addition, and simultaneously, it is incumbent upon the profession to further the movement toward organized, planned construction (of which these two steps are an immediate part). The outline of the objectives and skeleton organization of national planning have been set forth in "A Preliminary Plan for the Building Industry." *

The immediate need for planning on a wider scale has been aptly summarized by Sir Raymond Unwin, President of the Royal Institute of British Architects: †

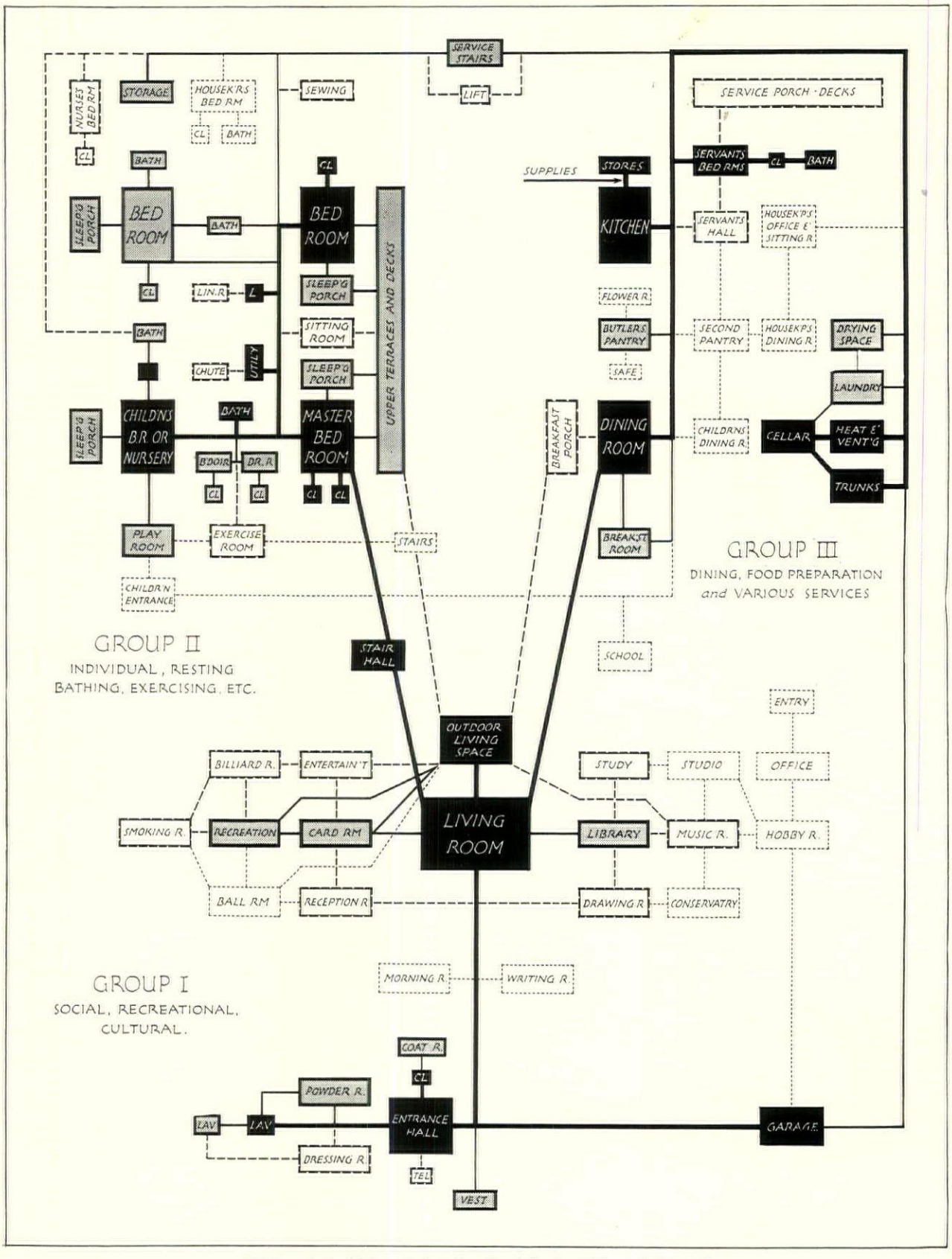
"The building industry as a whole is becoming fully conscious of this need to plan and organize its several sections for fuller cooperation. There is greater appreciation of the part which each section plays, whether as designer, operative, or maker of materials. This mutual understanding should lead to greater efficiency; but you rightly point out that there is need for planning on a wider scale, that the building industry may be given the opportunity to play its part more fully in the creation of efficient and comely buildings and towns. There is need, moreover, for the statesman and the financier to realize more fully that planning in time as well as in space is important, and that now is the time to build, and particularly to overtake our housing shortage, when credit and materials are plentiful and cheap, and when labor is not only superabundant but is costing the community a very heavy outlay for the privilege of maintaining the possessors of all the skill needed, doing nothing, when they might just as well be added to the capital value of the country."

Upon the industry's own ability and program will depend its success in this new deal.

Kenneth K. Stowell

Editor.

* The Architectural Forum, August, 1931, pages 126 to 132.
† From the "Foreword," The Architects Journal, London, January 11, 1933.



THE COUNTRY HOUSE CHART, ROOM BY ROOM

Functionally grouped, the various rooms of the country house, large or small, are shown diagrammatically in their relations with each other, for purposes of analysis and checking. The usual relative importance of the rooms is indicated by the relative blackness, the most essential rooms being solid black, next in importance, gray, etc.

THE COUNTRY HOUSE

ROOM BY ROOM

A CHECK LIST WITH SUGGESTIONS

BY FREDERIC ARDEN PAWLEY

IN THIS analysis of the country house consideration will be given to the functions of the various rooms, their relations to each other and the factors that contribute to their proper functioning. The more specific requirements of orientation, shape and size of rooms will also be treated.

The grouping of rooms as indicated on the chart opposite has been developed as a logical subdivision by function. There is however unavoidable overlapping in any such division, and the text of this outline therefore does not follow these groupings exactly. The order in which all rooms and services come into use cannot be shown specifically without an analysis of the various activities of the household of the particular owner. Traffic and use diagrams are best worked out in the study of a specific set of predetermined requirements arrived at in consultation with the owner.

These notes are designed to be equally useful to those planning an extensive country house or a modest suburban dwelling. The differences of the types are those of degree, size and services; the planning of functional relationships should be governed by similar principles in either case. In the smaller country house, rooms have to serve dual or multiple purposes and the design of such small residences is made correspondingly difficult by this fact. The larger house may be provided with additional flexibility by the addition of elements, but the small one, to remain small, must gain this facility through more studied relation of parts for multi-use.

This check list summarizes the important units in three functional groups: (1) Social, recreational, cultural; (2) Individual, resting, bathing, dressing, exercising, etc.; (3) Dining, food preparation, and various service functions. It divides the rooms in order of their usual relative importance, those designated "A" being the essential rooms or services, "B" being those usually considered next in importance, "C" being those supplementary rooms needed in larger establishments, and "D" those frequently found only in large estates. In this way the check list is usable for country houses of any size.

In the small house the same general order holds although all social needs may be satisfied by a hall, with a coat closet, living and dining room (or combined), the required services, the various bedrooms and baths, and a spare room for a house guest. Bedrooms are used as coat and powder rooms.

I. SOCIAL, RECREATIONAL, CULTURAL

LIVING ROOM (A1). The heart and center of the house and of most of the activities of the family. Its functions include all social, recreational and cultural activities not provided for in other ways, or in other rooms in the larger houses. It serves the small house as reception room, social hall, library, music room, study, entertainment room, play room and even ballroom.

The furniture is usually arranged in groups around focal points, such as fireplace or bay windows, and arranged for convenience and various functions, such as reading, conversation, games, view, etc.

The living room should be screened from entrance and dining areas. The stairs should be outside of or screened from the living room. They may be a decorative feature for the end of the room but do not afford sufficient privacy for individual activities. Book cases may be used as screens; useful cupboards may be made of the lower sections. Orientation should not be north; south and west desirable.

The size range is 15′ x 20′ to 20′ x 26′, with a 16′ 6″ x 24′ 6″ average.

PORCHES AND LOGGIAS (A2). View important. Orientation depends on climate with intent to avoid the more prolonged disagreeable exposure. May be glass-enclosed. Weatherproof floor. Close relation to



F. S. Lincoln

The living room serves many functions, not the least important of which is that of expressing the taste and character of the owner. Breed, Fuller & Dick, architects

indoor living area. Easy service access, especially for dining porch. Space for card tables. Awnings. Screens.

Terraces. Location on ground level is influenced by privacy (away from streets and drives), view, freedom from insects. Beach furniture: steamer chairs, gay umbrellas, tables, game tables, sand boxes, slides, teeter boards. (See THE ARCHITECTURAL FORUM, August, 1932, data sheet, page 183.) Storage for games and equipment. Garden treatment, changes in level, fountain, pool. Minimum width for a living terrace is 6′. An awning is a most efficient type of window shading device, for heat is easily dissipated by the surrounding air.

UPPER TERRACES OR DECKS (A2A). Balconies, decks or upper floor loggias provide privacy, view and more freedom from insects. Exercising equipment or games. Dumb-waiter for dining service. Upper floor serving kitchen. Awning. Open-air fireplace. Formal garden treatment with hedges in boxes or tubs, trellises, patterned paving. For sunbathing provide privacy and protection from wind (high parapet or curtain). Railings should be planned to discourage children's climbing. Provide covered storage for games, pillows, chairs, tables, and other equipment.

ENTRANCE HALL (A3). In the smaller house the entrance hall is usually the stair hall. In the larger house it should give access to coat rooms, powder room, men's dressing room, toilets, telephone booth, to reception room, drawing room and to stairs. Average size for larger houses 13′ x 20′. Sizes range from 7′ x 14′ to 25′ x 35′.

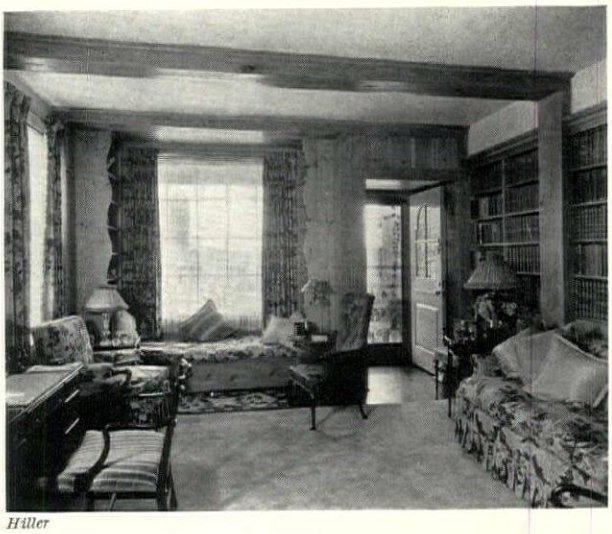
The library may serve as a second living room. Reading comfort and light are provided by the window seat and restful furniture. Marston & Maybury, architects

Have absolute minimum of furniture. A bench or chest for hat and coat of a short-time visitor, a chair or two, small table, mirror.

Stair Hall (Lift). Many large houses make a feature of an elaborate stair hall. The width of the stairs averages 4′ 6″ (3′ 6″ to 6′). In smaller houses 3′ is ample width. Double runs turning and meeting with a passage or entrance under the landing are a method of gaining monumental symmetry. There are many treatments: slightly curved or circular runs or landings, winding stairs.

The skylighting of a stair well is another problem requiring careful consideration both for appearance and for weather-tightness. In windy locations unprotected skylights may be noisy.

A lift or invalid elevator is often required. It is also useful for service: luggage, trunks, taking meals



Hiller



Hiller

Warmth, formality and restraint are obtained with finely detailed paneling in this living room. Marston & Maybury, architects

to those upstairs. Wheel chair size cab is minimum 3′ x 4′ 4″, with a shaft size of 4′ x 4′ 8″.

In larger houses the ceiling height for the first floor averages 12′ (10′ to 17′). Second floor, 9′ 8″ (8′ to 10′ 10″). In smaller houses first floor averages 8′ and second floor 7′ 6″.

VESTIBULE (A3A). Functions: affording shelter, a place for removing wraps, as a buffer between outside and inside. Porch, loggia or other covered entry may partially take its place. Steps adjusting floor levels may be placed in the vestibule. Shape entirely optional, depending on doors.

The average size is 6′ 6″ x 9′. Sizes range from 4′ x 6′ to 10′ x 10′. In the smaller houses compared the average size was 4′ 6″ x 5′ (3′ x 6′ to 5′ x 5′).

Provide space for an umbrella stand and a mirror. Stands or niches for flower vases or small sculpture may be used. Sinkage for mats. The lighting switch just within the door if there are steps; an additional switch on hall side.

Finish should be light in color to avoid contrast with daylight so house will not appear gloomy. Use only easily cleaned materials for finish.

LIBRARY (B1). This may be a formal composition of books and dark wood paneling, or a room for reading and study. Gallery or rolling ladder for large library. Library sometimes a multiple-purpose room (music, home motion pictures, other entertaining).

Built-in bookcases, cupboard or shelves for larger books at the bottom. Two lowest shelves may be inclined so that book backs can be read. Glazed cases to protect valuable books. Shelf depth 8″ or 9″. Height 9″ between shelves for ordinary books. Light the shelves from reflectors above. Shaded floor and desk lamps. Outlet for motion picture projector. Provide screen, roll up or down to conceal. Cabinet for motion picture projector and equipment. Darkening room, opaque shades in slots or heavy draperies.

Desk, typewriter and filing space may be required for the study type of library.

The larger country house library averages 19′ x 30′ (14′ x 21′ to 20′ x 42′). Smaller ones, 11′ x 14′ to 15′ x 16′.

GENERAL RECREATION ROOM (B2). In the smaller house, unused basement makes excellent recreation room. Distance from bedrooms is an advantage, so noise will not disturb sleepers. Radio, phonograph, small dance floor, benches, large chairs, built-in couch; 16 mm. motion picture projector and screen. Walls furred-out plywood or



H. Parker Rolfe

Flooded with light from a glazed roof, the sun porch gives an expansiveness to living. R. Brognard Okie, architect



F. S. Lincoln

The dining room in most country houses must serve equally well the formal dinner and the daily needs of the family. Breed, Fuller & Dick, architects

wallboard paneling. Acoustic absorbent on ceiling. Shelves and cupboard space for games, books, musical instruments and music. A room with similar function may be on the ground floor in a larger house. Storage for outdoor sport equipment such as guns, fishing tackle, rackets, bats, gloves, may be included. Dimensions 15′ x 20′ to 20′ x 25′.

Music Room (B3). Present-day acoustic principles indicate use of flat ceiling as reflector of sound down upon the audience, back wall, and other absorbing surfaces. Concave curved sections or plans should be avoided. The volume of the room influences the reverberation (direct ratio): for spoken word this must be slight to avoid prolonging of syllables; for music it should be longer; for choral music it should be quite long, since the effects depend on building up a body of tone. The room is a most important instrument. Selective absorption by means of many materials of varying absorptive ability is recommended to bring our pure quality of tone. Draperies of various weights are suggested. Polished wood paneling gives resonance and brightness to musical tone, especially if it may be furred-out for an air space behind. The room should be heavily carpeted and the upholstery thick. Broken surfaces in harder materials are not efficient absorbents unless the relief is 5″ or 6″ deep. The dimensions of the room, size of the audience, furniture, construction, materials, all must be adjusted to each other for best acoustic results.

Pipe Organ Installations. The minimum size chamber for a residence organ is 7′ x 11′ x 9′ high. Larger sizes require tall chambers or lofts. The manual may be built-in.

A musicians' gallery is sometimes provided, especially if the room is to be used for dancing.

The average size music room is 21′ 6″ x 31′ 6″ (20′ x 24′ to 27′ x 40′).

Piano Sizes. Concert grand 9′ x 5′ 2″; music room grand 7′ 3″ x 5′; baby grand 4′ 10″ x 5′ 8″; standard upright 5′ 10″ x 2′ 2″ x 4′ 5½″; studio upright 4′ 10″ x 2′ x 3′ 8″.

Reception Room, "Hall" (B1). This element varies in function from a large room for formal reception of guests to a smaller room for waiting bond salesmen, etc. The large type may be the "hall," the largest plan element, a substitute for the drawing room. The smaller type of reception room should be located near the entrance. The two dressing rooms may be reception rooms.

Average size, 14′ 6″ x 18′ 6″, with a range from 14′ x 14′ to 15′ x 23′. Furniture, formal and small. Outlook unimportant.

Drawing Room (C1). For the formal reception of guests, assemblage before dinner, conversation and refreshments after dinner. Shape usually rectangular. Formal decoration. A fireplace is usual as a focal point. Average size, for larger houses, 20′ x 36′ (18′ x 22′ to 30′ x 60′).

For smaller houses, unless there is much entertaining, the living room is used. Normal arrangement for a domestic rather than social function.

The furniture of a drawing room (stools, benches, chairs, sofas, small or end tables) is small in scale and arranged in symmetrical groups for conversation. About five pieces in each group. Piano, if no music room.

Lighting and color scheme, decorative in intent, many small shielded sources of light and warm colors kind to complexions.

Coat Rooms (C1a). Size and equipment determined by amount of entertaining intended. In the larger houses the coat rooms average 8′ x 10′ with a range from 5′ x 8′ to 10′ x 15′. For gentlemen's coat room, long shelves for hats, rack for sticks under hanger rod for coats (hanging coats are 1′ 10″ wide). In the gentlemen's dressing room there should be a chair or two and a full-length mirror. Provide lavatory off dressing room. Substitute coat racks may be placed in hall. In small house, bedrooms used for wraps, etc. In larger country houses separate dressing rooms, a powder room, closets, lavatories, toilets are provided. Located near vestibule and hall.

A telephone booth for guests and household use; standard size booth, 30″ square.

Powder Room (C1b). Size depends on scale of entertaining. Larger houses, average size 8′ x 10′. The minimum requires space for vanity dresser with three-leaf mirror, bench, full-length mirror and a boudoir chair. Lavatory and toilet adjacent (ample racks for hand towels). Ventilation important. Coat closet preferably separate.

Card or Game Room (C2). A card table is 30″ to 36″ square. The four places require approximately

6 sq. ft., total 30 to 34 sq. ft. per table, 5′ 6″ or 5′ 10″ square. These are maximum requirements. Ping pong tables are 5′ x 9′ and 4′ x 8′. (See THE ARCHITECTURAL FORUM, October, 1932, data sheet, page 379.)

Study lighting in relation to tables. Card table lighting shaded drop over center of table, 2′ above playing surface. Provide 2′ minimum clearance around active game tables.

BILLIARD ROOM (C3). Locate next to smoking room. Sometimes in basement. Average size is 16′ x 25′ (15′ x 20′ to 17′ x 30′). This average size will hold comfortably one English type table (6′ 8″ x 12′ 6″). This size table should have four or six shaded lights in one or two rows, respectively, and about 3′ above playing surface. The standard table is 5′ 6″ x 10′ 2″. Smaller sizes are nominally 4′ 6″ x 9′ and 4′ x 8′. Cues are 57″ long. Ball rack or cabinet. Provide 5′ clearance around tables.

Smoking Room. Similar to or substitute for billiard room, man's study or library. Near men's dressing room and lavatory. Access from drawing room if possible. Easy chairs in groups for conversation. Fireplace. Trophy cabinet. Leather upholstery. Dark, rich decoration.

STUDY, OFFICE, DEN (C4). This may be a necessity for the professional man and requires immediate access from the outside; 12′ x 16′ usually ample. It may be a place for keeping or displaying outdoor sport equipment, guns, fishing tackle, in glazed wall or corner cabinets. Bookshelves, shelves for magazines. Desk, typewriter, filing space. Easy chairs, fireplace, wood-box and access. Quiet location. General warm color scheme.

Writing Room. This element is similar to a morning room. It may actually be used for writing, or as an additional small room for waiting visitors or to give scale to the larger plan elements. A slightly smaller size range holds with 12′ x 17′ average.

Desk space with good lighting. Several occasional and upholstered chairs.

ENTERTAINMENT ROOM (BALLROOM) (D1). Usually omitted; hotels used for large balls instead. A made-over barn may have a stage at one end and simple provision for theatricals, or orchestra and other music. Provide lavatories and toilets; provision for storing chairs. Building code or underwriters' requirements must be complied with if 16 mm. motion picture projection is desired. Waxed floor. Brilliant illumination. Phonograph, radio, piano, music cabinet for sheets, rolls, records, film.

STUDIO (D2). North or top lighting desirable. Neutral walls. Stair and balcony may be desired for perspective tests of objects seen from below. Closets, cupboards, with shelves, drawers for art materials, books. Dressing room and toilet for model. Piano. Room may be combined studio-music room if windows can be decoratively treated. Average size 17′ x 27′.



First impressions are always important, and especially so in the living room where guests are received and entertained. D. V. S. Hahn, architect

CONSERVATORY (D3). Display of growing plants after they have been brought to most effective stage in a greenhouse. Orientation preferably south, southeast, or southwest with top lighting. Control of temperature and humidity, water supply and drainage must be provided. Double glazing may be needed in extreme climates. The arrangement of the benches (with drains) for the plants should be a part of the design of the room. Fountain and pool. Easily cleaned floor is needed. Floor drain.

II. RESTING, BATHING, DRESSING, EXERCISING, ETC.

GENERAL. Various types of rooms for sleeping, dressing and bathing form a second group of domestic elements. There is a tendency to decrease bedroom sizes and to consider such rooms primarily as places for sleeping. Sleeping porches are also used. Bath-dressing rooms are usually not desirable — the inevitable dampness of bathrooms is not good for clothing.

Wall space for furniture is important. Outlook may govern the locations of windows. The rooms should be flexible enough for minor rearrangement. Although built-in furniture is inflexible it conserves space, simplifies cleaning, may increase plan efficiency and in many cases is an economy.

GENERAL BEDROOM SUGGESTIONS (A1). An eastern exposure may sometimes awaken occupants too early, although it is pleasant to have sun while dressing and bathing. Bedrooms may be on north if used for sleeping only.

Quiet, non-traffic sides of house should be selected for sleeping quarters. Distance from nursery, kitchen and other services is desirable. Window-silencing units may be installed. If the room must be near

some source of noise, sound-insulating precautions should be taken. This requires structural isolation as well as tightness and absorbing materials. Massive construction remains very effective for this purpose. Every bedroom should have independent access from the hall.

There should be ample space for bed and room for bed-making. Full bed is 4′ 10″ x 6′ 10″. Twin bed is 3′ 7½″ x 6′ 10″. Door-beds in upstairs sitting rooms, sewing rooms, etc., provide additional guest rooms. Satisfactory location of beds within rooms requires planning in collaboration with owner. Some may prefer the head of a bed near a window. Reading light is better for those ill or those who are able to read the morning paper in bed. Such an arrangement is most practical when the window is fixed or protected outside against rain. A bed should not face a window.

When there are dressing rooms, the bedroom may have only bed or beds, built-in provision for books, clock, telephone, reading light, convenience outlet, drinking water and glass. Dressing gown hooks. The room should have a general light switched from door as well as satisfactory reading lights. Quick electric heaters (may be built-in) in dressing room, and bath with switch at bed. Closet and built-in drawer space for garments and accessories will be required in bedroom if there is no dressing room. Warm color scheme for cool side of house and vice versa.

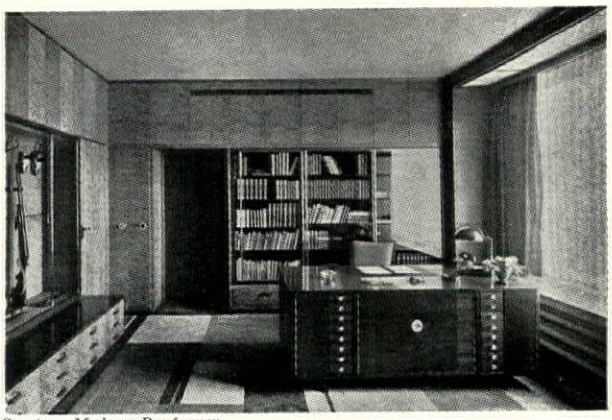
Master Bedroom (A2). Average size for larger houses 19′ x 22′ (15′ x 17′ to 24′ x 35′). For smaller houses average is 13′ 6″ x 16′ (11′ x 12′ to 16′ x 18′ 6″). With boudoir and dressing room the bedroom need not be large. Otherwise it should have a well-lighted dressing table (bulb over mirror, not at side). Best daylighting may be had by placing tables in front of or between windows. A chaise longue with good natural lighting for reading, if no boudoir.

Master switch to light all house lights. Burglar floodlighting of grounds switched from bed.

Children's Quarters (A3). English houses often have day and night nurseries. The day nursery corresponds to our playroom for smaller children. Some plans have nurse's bedroom and even a kitchenette, with dumb-waiter, adjacent to the child's room. Sun is essential, but for young children it should not be late afternoon sun. Room should be distant from music or recreation rooms.

The average nursery in a large house is 17′ x 18′ 6″ (16′ x 17′ to 18′ x 20′).

Besides the crib, bed or beds, there may be a chifferobe of built-in shelves, hanging and short drawer space for clothes, open shelves and chest for toys, table and chair for meals. A child's closet should have low hooks and shelves. (See The Architectural Forum, July, 1932, data sheet, page 85.)



Courtesy, *Moderne Bauformen*

Man's study and sitting room, which has the combined functions of study, working library, trophy room, gun room and smoking room. Professor Martin Elsaesser, architect

Washable walls and juvenile decoration.

Guest Bedroom (A4). Average size 16′ x 20′ (10′ x 15′ to 23′ x 25′). Smaller houses average 12′ x 14′ 6″ (9′ 6″ x 12′ to 12′ x 19′).

Very large estates may have a guest house with a floor for visiting bachelors.

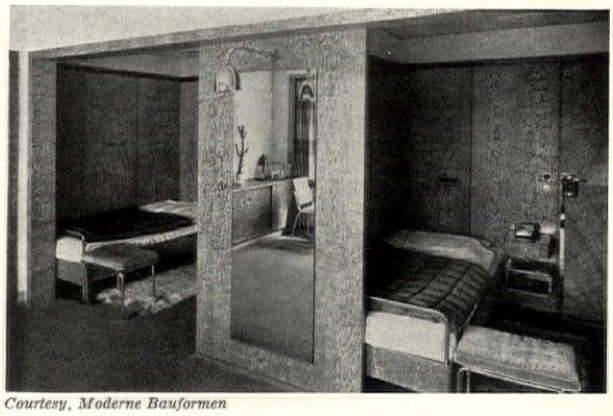
A guest room should have a night light, bell on cord, and a convenience outlet at head of bed. There should be shutters or Venetian blinds for the windows. A sofa, two chairs, and a well-lighted dressing table. Guest rooms especially should be distant from nursery and services.

Maids and valets of guests must be provided for.

Bathrooms (A5). (See also bathroom article, page 249, this issue.) Every guest room in larger house must have private bath. In the smaller house the general bathroom must be accessible from the upstairs hall.

The average size bath in the larger house is 7′ 6″ x 11′ 6″ (6′ x 10′ to 10′ x 10′). In the smaller house 6′ x 8′ 6″ (5′ x 7′ 6″ to 6′ x 10′ 6″). The minimum area in which it is possible to arrange tub (or shower), lavatory and toilet is 25 sq. ft. (5′ x 5′). For two-door bath the minimum is 5′ x 7′.

All equipment should be accessible for cleaning. Handles should be within easy reach. Safety handrail beside tub. Over-rim supply for tub. Mix faucets for tub and lavatory. Non-scalding mix valve for shower. Separate shower cabinet (glass door or curtain), or over-tub fixture. Small soiling surface in toilet. Cabinet with mirror door over lavatory. Two lights at sides. Convenience outlet. Glass, tooth brush and soap holders. Towel rods. Razor blade disposal. Hot water bottle and dressing gown hooks. Built-in scale. A new type of tub is short and deep with a seat in one end. The deeper part may be used as a shower and much less length is required. Closet for bathroom supplies. Ventilated closet for cleaning cloths, brushes, hot water bottles. If interior room, ventilation is required.



Courtesy, Moderne Bauformen

Children's room in which the beds are in alcoves divided by partitions, each with its dressing stool, night stand and reading light. Professor Martin Elsaesser, architect

This may be effected by exhaust grille over toilet and louvers in door. Ceiling may be false with room for duct since full height is not needed.

Sleeping Porches (B1). The increasing favor of open air life emphasizes usable decks in residential construction. Open air sleeping recesses or balconies adjacent to each bedroom are suggested. The beds from the bedrooms may be used, in which case the doors should be 8″ wider than the beds. The porch may have wall beds. Protection from north, two sides open and screened, are desirable features.

The average size is 9′ x 12′ (8′ x 10′ to 10′ 6″ x 13′).

Boudoir (B2). This is, in literal French, a "pouting room." At one time it applied to a gentleman's room as well, but now it is a lady's small private sitting room adjacent to her bedroom. A boudoir is usually a dressing room. The shape is often non-rectangular. Cutting the corners of a small room tends to increase its intimate character.

The average size is 12′ x 16′ (10′ x 15′ to 15′ x 22′).

The use demands a warm color scheme and considerable delicacy of decoration and appointments.

A boudoir chair, a vanity dresser with non-splintering glass (mirror, marble, or other top), and a three-leaf mirror with bulb at top, a full-length mirror, bench, chaise longue are proper items of furniture. Writing desk.

A woman's closet space requires a pole for hanging coats, suits, dresses, dust-tight shoe and hat cupboards, drawers with small subdivisions. There should be a cedar chest or closet for out-of-season garments. Jewelry safe.

Dressing Room (B3). May be a den. Should be heated for winter use (quick electric heater switched from bed). Sunlight pleasant. Dressing room may be en suite with bedroom, bath, and sleeping porch. Full-length mirror best placed on window wall. Soiled linen locker. Jewelry safe.

Closet space should be arranged to hold different classes of garments and accessories in compartments especially planned for them. Pole for hanging coats and trousers. Drawer spaces for linen, etc. Necktie rack. Small shelves or pigeon holes for shoes. Closed cupboard for hats. Cedar closet or chest for out-of-season things. Light should reach every part of closet. Bulb may have a flexible arm socket or translucent shelves and ceiling, permitting concealed lighting. Average size dressing room is 8′ x 14′ (5′ 6″ x 9′ 6″ to 10′ x 15′).

Finish of closet interiors may match trim of dressing room. Standardized sections for closets may be purchased.

Playroom, Boys' Workshop (B4). Sun, air, good lighting. Isolated from rooms requiring quiet. Acoustic absorbents. Storage for games, toys, tools. Washable walls. Blackboard. Low wooden platform for electric trains. Low voltage outlet. Work bench. Drafting table. Slate top table, sink, shelves, gas outlet. Photographic dark room.

Second Floor Sitting Room (C1). May be en suite with master bedroom, boudoir, dressing room, with or without separate entrance from hall for general upstairs' use. Average size 12′ x 16′. Pleasant outlook. Place for overflow book shelves, door bed. Fireplace, wood box, dumb-waiter. In smaller houses might be a combined sewing-sitting room.

Morning Room (C2). This is a smaller sitting room for general daytime use by the family while the drawing room is reserved for afternoon and evening entertaining. It might well be near the breakfast room, also have an eastern or southeastern exposure, and be sunny and open as its name suggests. Usually rectangular in shape but it may be otherwise. While particular historic styles give forms to rooms, there is no reason why harmoniously contrasting shapes should not be used for these minor rooms in plans devoid of archæology. From the plans compared, 13′ 6″ x 18′ are the average dimensions for a morning room with a range from 10′ x 16′ to 18′ x 21′.

A small table, desk, several upholstered chairs and an occasional chair or so.

Exercise Room (C3). Small gymnasium located where noise will not disturb others; abundant light and air; 10′ x 10′ or larger. Equipment, according to individual needs or taste. Adjacent to shower and toilet. Closet for gym clothes.

Sewing Room (C4). Used in large residences not only for occasional seamstresses to repair uniforms, do other mending, or make clothes, but by personal maids to keep their mistress' things in perfect order, often a continuous task.

Good lighting is essential; north preferably.

Average size is 11′ 6″ x 15′ 6″ (8′ x 14′ to 17′ 6″ x 21′ 6″). In smaller houses average is 8′ x 11′.

Sewing machine table at right angles to window with light over left shoulder. Accessory cabinet. Cabinet and drawers for materials. Hanging and

closet space for clothes in process and dress forms; cutting table. Built-in ironing board. Outlet, place for iron and cord. Well-lighted full-length mirror.

CHILDREN'S ENTRANCE (D1). Place for storm clothes, storage for wheel toys, baby carriage, bicycles. (See THE ARCHITECTURAL FORUM, July, 1932, data sheet, page 87.) Heated. Easily cleaned walls, weatherproof floor, floor drain. Lavatory and mirror, drinking cups. Toilet in adjacent compartment.

Children's School Room. Where children have a governess or tutor. May be next to playroom or children's dining room; 10′ x 15′. Desks, seats, blackboard. Provisions for 16 mm. motion picture projection. Fireplace.

HOUSEKEEPER'S ROOMS (D2). In large country houses, dining room separate from the servants' hall, average size 12′ x 13′ 6″ (10′ x 10′ to 13′ x 16′ range). A sitting room, possibly combined with the housekeeper's dining room, with work desk, telephone, comfortable chair. A bedroom, 11′ x 13′ 6″ average.

III. DINING, FOOD PREPARATION, SERVICE FUNCTIONS

DINING ROOM (A1). If for general family use, locate for view and open and sunny effect. If for formal entertaining only, this may be an interior room with dark, rich decoration.

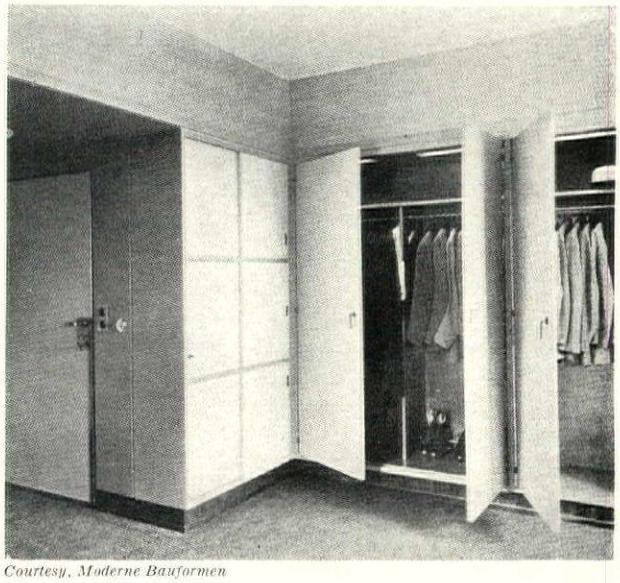
Shape determined by maximum table expansion, sideboard, service and access.

Each place at the table or tables requires 7 to 10 sq. ft. for chair, access and service circulation. Places are 22″ to 32″ wide. Twenty places maximum for one table. The average large dining room is 20′ x 25′ (14′ x 18′ to 20′ x 40′). Smaller ones average 13′ 6″ x 15′ 6″ (11′ x 12′ to 15′ x 18′).

Screened serving table is required in large rooms. Consoles or sideboards. In smaller rooms, visible shelving of china, glass and silver. Storage of linen and table leaves not in use. (All these in pantry in larger house.) Omit central electric fixture; candles are used exclusively except in "modern" style house.

FOOD SERVICE, GENERAL. All the latest equipment and appliances for lessening housework are to no avail unless service areas (working and living) are arranged for time- and labor-saving efficiency, for comfort, health and safety. Proper lighting, air conditioning and outlook of work areas should be studied for each plan. Sun, cross-draft or forced ventilation are required. Western exposure is not usually good for kitchens. Ample storage for supplies and equipment of daily or occasional use is necessary. Standardized metal sectional cabinets, modern gas or electric ranges, ovens, refrigerators, improved sink and drainboard designs, all are the outcome of the very considerable amount of study of household operations undertaken by various bodies. There can be no standard design for a working center since requirements and standards of families differ to such an extent. The President's Conference lists at least eight types of kitchens with about three sizes of each type. The old-fashioned large kitchen has been found effort-wasting and even the recommendations for rural kitchens result in no more than 9′ widths. Where there are a number of servants, more room is obviously necessary. In the smaller house multiple responsibilities, overseeing children's play, simultaneous laundry and kitchen work, often must be considered. Shelves and cupboards should be located to minimize stooping and reaching (7′ maximum height).

The model kitchens of today are for the medium-sized or small house in which all functions, such as preparing, cooking, serving of food (often dining), washing up after meals, and sometimes laundry work, are carried on in one room. Where there are servants, and distinct classes of them, separate rooms are conventionally insisted upon for various functions. Preparing and cooking use kitchen, cook's or second pantry, store closet, and cold room, if there is one. Serving is from butler's pantry (also called service, serving or sideboard room) to dining room. The children's dining room, housekeeper's dining room and servants' hall must also be served from second pantry or directly from kitchen. Soiled dishes and utensils from all these places go to the scullery or a pantry for washing. Silver either to butler's pantry or to special silver or plate room, thence to safe adjacent to butler's pantry. Table linen to butler's pantry. The routing of traffic for these different activities, which are



Courtesy, Moderne Bauformen

Built-in wardrobes and cupboards in a man's dressing room, showing simplicity in design, ingenious overhead lighting, and simplicity of arrangement. Professor M. Elsaesser, architect

capable of individual variations, determines the plan.

KITCHEN (A2). (See also kitchen article, page 245, this issue.) The efficient kitchen is based upon a study of operations and grouping together of equipment used simultaneously or consecutively. Traffic (doors) must be kept away from these work centers and everything kept within reach to minimize motion. This is the ideal for one person. Where there are several, it is necessary to correlate the working areas for most efficient passing on of operations from one worker to the next. Thus the access for food delivery should be direct (milk or package receiver may be built-in) to storage places and refrigerator. The preparing center (working surface, utensil and implement storage, sink, waste disposal) should be near storage. The cooking area (range, oven, fuel space, pot and pan storage, working surface, screened cooling cabinet) should overlap this and lead on toward serving area which should be between it and access to dining room. The serving area may include access to cold food for preparation of salads, etc. Clearing away, washing and putting service items in their various places of storage requires a similar routing of operations and overlapping of areas. Each kind of work should have its own working surface (adjusted to height of worker). There should be continuous working surfaces along the walls, about 2′ wide, with cupboards above and below. Unglazed doors are suggested for kitchen cupboards, as well as metal cabinets, because of easier cleaning. Cupboard door swings should be preplanned.

A rectangular shape is recommended for kitchens.

Average size kitchen in the larger houses compared was 14′ 6″ x 18′ (11′ x 12′ to 16′ x 22′). Smaller plans show a 10′ x 12′ average (8′ x 10′ to 13′ x 15′).



Wardrobe in man's dressing room provided with specially designed wardrobe having overhead lighting, glass shelves, show cupboards and swinging corner drawers

The sink should have two drainboards, or one on left for right-handed worker. Mixing, swing spout. Shelves and hooks over sink or at sides if there is a window. Towel rack. Some people prefer window over sink, some at right angles to sink.

Refrigerators should not be nearer heat sources than necessary. Air circulation is usually advisable on top, and behind for those with compressor beneath.

Range should be near sink and working surface.

The all-in-one kitchen will require a business center for telephone, bills, recipes, cook books, writing surface, pencil sharpener and key hooks with labels.

Electric lights may be placed behind continuous translucent panels in false ceiling in front of cabinet tops. Shielded sources of light under the cupboard overhangs may be necessary. These may be occasional tubular "showcase" lights. Electric clock, radio, annunciator, telephone extension and convenience outlets above working surfaces for mixers, grinders, squeezers, etc. An electric range requires special wiring, power circuit.

A false ceiling may conceal a ventilating duct with exhaust fan through exterior wall. The outlet should not be near other windows (check with upper floors), and is preferably on side away from prevailing wind. The fan should be reversible. A hood over the stove may be connected with this duct.

Sanitary floor, easy to walk on. Coved baseboard. Washable sanitary walls and ceiling.

PANTRY (A2A). A room for serving up food from kitchen, making salads, mixing drinks, washing and storing silver, glassware and valuable china. Storage of table linen, table leaves, miscellaneous.

Average size in larger houses is 10′ x 17′ (8′ x 10′ to 14′ x 25′). The pantry, if there is one, in a smaller house averages 5′ 6″ x 10′ (4′ x 5′ to 8′ x 12′). Many small houses omit this element, place cupboards in kitchen, have a pass cabinet between kitchen and dining room and save many steps. A pantry in some measure prevents passage of cooking odors into dining room.

Two-compartment sink with double drainboard. Mixing, swing spout. Work surfaces all same height. Refrigerator. Cupboards and drawer space for storing dishes, glassware, silver that does not go in safe, and linen. Toe room under all equipment. Bright lighting, natural and artificial, of all work surfaces. Ventilation. Pass-cabinet with revolving cylindrical shield, vertical, counterweighted or horizontal slide, to keep out odors. Continuous surfaces on which platters, etc., may be set up near dining room. If there must be traffic through a pantry it should be across one narrow end rather than through full length.

STORE CLOSET (A2B). For storage of heavy dry food supplies in cans, bags and boxes. Shelves. Vegetables and fruits, preserves, should have ventilation controlled to prevent freezing. Shelves, bins, stepladder.

BASEMENT (A3). Functions, housing of heating and air conditioning plant. (See heating and air conditioning article, page 235, this issue.) Electric equipment, meters, etc. Ducts, plumbing lines, main wiring, etc., available for repair or adjustment. Storage of various kinds.

Where basement or cellar is used, separate exterior access, fuel access for delivery and use, dustproof coal bin, ash hoist for removal of waste, dampproofing, head-room under pipes and girders, screened basement windows, are items to be considered.

Trunk Room. Space for storing trunks, awnings, screens, open porch furniture in winter. May have exterior access only. Must be dry and secure. Access for trunks from bedrooms, including guest rooms, to trunk room. In some plans trunk storage is in attic (lift, stair and door widths).

Wood Closets. Occasional small closets may be planned with dumb-waiter service for wood.

SERVANTS' BEDROOMS (A4). For resident and visiting servants. Average in larger houses is 10′ 8″ x 12′ (7′ x 10′ to 10′ x 16′). In smaller houses average is 8′ 6″ x 10′ 6″ (6′ 6″ x 8′ 6″ to 11′ x 13′). Lavatory and closet in each room. At least one servants' bath on each floor of servants' rooms. Bedroom on the ground floor, "man's room," for butler or other man servant who may be needed at night.

GARAGE (A5). Location hidden from approach but easily accessible from front of house and from street. Turnaround court. Parking space for cars of visitors and guests. Apartments for chauffeur, gardener, over garage. Storage for tools, spare tires, etc., gasoline, oil (local and underwriters' regulations). Workroom. Water supply. Heat. Overhead, folding, rolling or sliding doors with control from key switch on post beside drive and from door jamb. (Be able to open door if current is interrupted.) Automatic operation by photo-electric cell.

Average two-car garage is 18′ 6″ x 20′. Three-car 30′ x 21′. Floor pitched to drains. Working pit under one-car place. Convenience outlets. Telephone extension. Arrange interior access from front or rear hall. Fire-resistant wall and door.

UPPER FLOOR SERVICE AREAS (A6). A service stair is necessary in all but the smaller house. This may be only 2′ wide; better 3′ for carrying goods. A service closet (2′ x 3′ minimum) is needed on each floor for cleaning materials and equipment. (See THE ARCHITECTURAL FORUM, July, 1932, data sheet, page 87.) A laundry chute may start from an upper floor service closet and preferably pass kitchen on direct way to laundry.

Linen Closet or Room. Separate shelves for various classes of household linen, sheets for various bed sizes, pillow cases, different kinds of towels. Blankets and comforters must be kept in a mothproof place. In larger houses the average linen room required is 6′ 6″ x 10′ (4′ x 6′ to 10′ x 12′). In smaller houses average is 3′ x 3′ (2′ x 3′ to 5′ x 8′). Electric lights and a window are desirable.

BREAKFAST ROOM (B1). Often used by family for daytime meals if dining room is reserved for evenings and formal occasions. A breakfast nook or porch should not lengthen the access from kitchen to dining room. Windows east or southeast for morning sun. In larger houses, from 14′ x 15′ to 16′ x 23′, average of 13′ 6″ x 18′ 6″. Breakfast nooks average 6′ x 8′ with 9′ x 10′ large.

LAUNDRY (B2). Cross-draft and sunlight desirable. Access to drying yard for clothes-wagon or basket. Indoor drying on line, rack or in gas or electrically heated chamber (flue, exhaust fan). Laundry may be separated from kitchen services by service porch.

Average size in larger houses 12′ x 18′ (9′ 10″ x 14′ 10″ to 13′ x 27′). Rarely in basement.

Tubs with rim at proper working height. Waterproof floor, drain. Electric washer, wringer, centrifugal drier (outlets). Mangle or ironer. Shelves for supplies. Built-in ironing board with place for iron, cord, outlet. Water-heating stove with faucet to fill boiler.

SECOND PANTRY AND SCULLERY (B3). Not located between kitchen and dining room. Preferably with access through one end of butler's pantry to dining room. Also access to kitchen. May not have sink if kitchen sink is near or if there is a scullery. May be combined with flower room. Average size 7′ x 11′ 6″ (6′ x 10′ to 10′ x 15′).

SERVANTS' HALL (B4). Service dining room. Size depends on number of servants. Average of plans compared is 12′ 6″ x 16′ 6″ (11′ x 12′ to 20′ x 20′). Servants' dining room adjacent to kitchen and service porch; 6′ 6″ x 8′ for smaller house.

Servants' Porch. Screened and with sun protection for summer dining. Service access. Simple and comfortable porch furniture. Outlook away from grounds and terraces used by family and guests.

CHILDREN'S DINING ROOMS (C1). Needed where much entertaining is done. The room should be open and sunny and might be on an upper floor with dumb-waiter or kitchenette service; 14′ x 14′ is an ample size.

PRESSING OR VALETING ROOM (D1). This may be on upper floor or below with other services.

Storage. Additional closet and rooms for storage are always useful. Light, window if possible.

FLOWER ROOM (D2). Sink with high spout for filling vases; drainboards. Shelves for vases, baskets. Shallow cabinet with glass door and shelves for rolls of ribbon. Container for withered flowers. Average size is 5′ 6″ x 10′ (4′ x 8′ to 7′ x 12′).

THE ARCHITECT

AS FINANCIAL COUNSELOR

BY JOHN CUSHMAN FISTERE

The ever-expanding scope of architectural activity often includes financial consultation, even in residence work. Knowledge of current practice and familiarity with local money sources, which are discussed in this article, are essential to the promotion of business in these times. They may even prove to be the difference between actually going ahead with a project and disappointing, indefinite postponements.

WITH insurance companies, banks and building and loan associations declaring moratoriums on mortgage payments, a discussion of current residence financing methods is possibly irrelevant. Many lending agencies have made no loans for more than a year, and all others are accepting none but the most conservative applications. Despite the efforts that have been made to loosen home building money, notably the establishment of the Home Loan Bank, widespread improvement has been so slow as to be unnoticeable to many. A few communities have extricated themselves from the tight positions in which they have been jammed since 1929, and a few others are reporting "progress."

One of the few "goods" blown to the building industry by the ill wind of depression is the opportunity to examine, in this deflated market, past practice in residence financing, to redetermine the advisability of continuing certain methods, and to develop others to a greater degree of service. Some methods that looked sound at the time of composition have wabbled under stress, and others have withstood the strain remarkably well.

Heretofore, the architect has not been too greatly concerned with financing residence work. Most of his houses were built for cash, or with only a small mortgage placed without any difficulty with the agency which suited the client's convenience. At the present time, however, the architect cannot afford to continue his indifference, because there are too many jobs hanging fire until clients can finance them. The architect's knowledge of financing methods, his familiarity with local money sources, and his ingenuity in preparing a solution will prove many times to be the difference between his going ahead with a job and its complete abandonment.

Causes of Failure. A successful financing plan depends primarily upon the fitness of the plan to the income of the client. In addition to the amount, significant facts to be known about an income are: its regularity, the likelihood of its stability or increase, the proportion dependent upon salary and upon investments. As financial counselor, the architect is also entitled to know the saving habits of his client, his ability to accumulate large sums, or his dependability in meeting bills or other installment payments. All the elements which enter into the establishment of a man's moral risk are facts that an architect should know — credit standing, local reputation, and personal opinion.

How important these personal factors are may be appreciated by examination of the report on the causes of mortgage foreclosures made to the President's Conference on Home Building and Home Ownership, from a survey of financial agencies. The following causes were listed in the order of their importance:

1. Borrower was unable to pay because of unemployment.
2. Financial circumstances of borrower did not warrant such an expensive home.
3. Borrower was unable to pay because of special assessments and increases in taxation.
4. Borrower was a speculative builder who failed to find a buyer.
5. Domestic troubles of borrower.
6. Borrower was dishonest.

In the order of their importance, the following were listed as difficulties contributing to default:

1. General decline in home property values.
2. Loan was too large a percentage of value.
3. Poor construction of building.
4. House was out of keeping with neighborhood.

5. Intrusion in the neighborhood of incompatible elements or other change in character of the neighborhood.
6. Loan was made on property in subdivision not yet developed.
7. Zoning law was inadequate.

Over many of the conditions contributing to default, the architect can exercise a definite control. The personal causes are less subject to outside influence. Aware, however, that these conditions are the principal causes for default, the architect can better advise his clients, and possibly prevent reckless steps.

Types of Loans. The once strong prejudice of certain lending institutions against long term amortized mortgages has been washed away by the strength of this type of mortgage in times like these. Not only are a greater number of mortgagors allowing amortized loans, but they are encouraging them, particularly for the man of moderate income with small capital resources. Although the amortized mortgage is likely to be more suitable for this type of man than for the man of assured wealth, it has certain advantages for both.

Although no difficulty is experienced usually in renewing straight mortgages, there is always the possibility of an embarrassing refusal to renew. This is particularly true when the mortgage is held by a private individual. There is a further objection to the straight mortgage in the cost of renewal, which varies with different lending agencies. The present renewal rate ranges from 1 to 2.5 per cent and averages 1.68 per cent.

The amortized mortgage bears a higher rate of interest, but this is partially justified because of the absence of the cost of renewal. Furthermore, the amortized mortgage is apt to be less punishing to the owner in bad times. One consideration not to be overlooked is the prepayment privilege, whether or not there is a penalty — which in some cases may amount to as much as a year's interest. Choice between the two types of loans may sometimes be made by the compromise of obtaining a straight mortgage for two or three years, and then switching to an amortized mortgage.

Although it is perhaps ridiculous to talk about junior financing at the present time, the character of the first mortgage should be chosen with that possibility in mind. More than one mortgage has been foreclosed because of poorly adjusted payments. The first mortgage should not be amortized while the second mortgage is still in force.

Income and Method. In arranging safe financing, there must be the sound basis of a proper relation between the cost of the house and the owner's income. At one time a ratio of three to one was considered standard. During good times, the ratio was increased to three-and-one-half to one, and now it has decreased to two-and-one-half to one.

An even more important guide to safe financing is the relation between income and carrying charges. If the monthly charges, including taxes, interest and payment on principal, exceed one-fifth the amount of monthly income, this is a condition

LENDING INSTITUTIONS	LENGTH OF TERM OF LOANS		MAXIMUM LOAN % OF PROPERTY	USUAL LOAN % OF PROPERTY	MAXIMUM AMOUNT LOANED	TERMS			PREPAYMENT PRIVILEGE	APPRAISALS	GENERAL COMMENTS
	STRAIGHT	AMORTIZED				COMMISSION	AMORTIZATION	INTEREST			
SAVINGS BANKS											
1 NAME	3	5-12	50	40	$25,000	2%	6% ANNUALLY	5½%	ALLOWED	OWN	PREFERS EAST SIDE & BAY PARK REGION. LIKE STRAIGHT LOAN FOR SHORT PERIOD
CHIEF LOAN OFFICER											
2 NAME	2	5-8	50	40	$15,000	2.5%	5% SEMI-ANNUALLY	6%	ALLOWED WITH 6 MO. INT. PENALTY	OWN AND INDEPENDENT	MORAL RISK OF BORROWER MOST IMPORTANT FACTOR, PLENTY OF MONEY.
CHIEF LOAN OFFICER ETC.											
INSURANCE CO'S											
1 NAME	3-5	5-16	60	50	$25,000	NO COMMISSION	3% ANNUALLY	5¾%	ALLOWED AFTER 3 YRS.	OWN	ONLY IN VERY HIGHLY DEVELOPED AREAS. LOW APPRAISALS.
LOCAL LOAN OFFICER OR CORRESPONDENT											
2 NAME	3-5	5-10	50	40	NO LIMIT	1.5%	3% ANNUALLY	6%	ALLOWED	OWN	STRICT ON CHARACTER OF BORROWER
LOCAL LOAN OFFICER OR CORRESPONDENT ETC.											
BL'D'G & LOAN ASSNS											
1 NAME	2-3	8-11.5	80	60	$15,000	3%	1% MONTHLY	6½%	ALLOWED	OWN AND INDEPENDENT	ANYWHERE WITHIN 30 MILES OF TOWN HALL. LIBERAL
CHIEF LOAN OFFICER											
2 NAME	3	8-12	70	60	$10,000	1%	1% MONTHLY	6%	ALLOWED	OWN AND INDEPENDENT	PREFERS EAST & SOUTH SIDES EASY ON BORROWERS
CHIEF LOAN OFFICER ETC.											
MORTGAGE BANKS											
1 NAME	3-5	5-8	60	50	$20,000	2%	5% SEMI-ANNUALLY	6%	ALLOWED YEAR INTEREST PENALTY	INDEPENDENT	EXTREMELY RELIABLE IN APPRAISALS. FUNDS LOW AT PRESENT
CHIEF LOAN OFFICER											
2 NAME	3	8-11	70	50	NO LIMIT	2%	6% ANNUALLY	7%	ALLOWED	OWN	REFUSE LOANS TO MEN WHOSE ONLY INCOME IS SALARY.
CHIEF LOAN OFFICER											
PRIVATE INVESTORS OTHER SOURCES											

Suggested chart for listing essential information about local financing institutions. This form, in use by realtors and builders, is a visual record of the financing plans open to clients, and also a ready reference on available money. A card system, with a separate card devoted to data about each institution, may be a more flexible and more private record than the form shown here

which usually leads to distress at some time during the amortization of the loan.

In this connection, the results of a questionnaire to real estate dealers, first mortgage lenders and builders are interesting. In replying to the question, "What maximum monthly payment of principal and interest in relation to his *assured* monthly income should the home builder contract for?" the following results were obtained:

	Average
193 Real estate dealers	23.4 per cent
91 First mortgage lenders	23.5 per cent
50 Builders	25.8 per cent
Average of 334 replies	23.8 per cent

To a second question, "What minimum initial cash investment should the home builder have as the basis of a sound transaction?" the tabulation of answers was as follows:

	Average
199 Real estate dealers	21 per cent
111 First mortgage lenders	31 per cent
58 Builders	30 per cent
Average of 368 replies	23.8 per cent

Sharp Practices. A further necessity in selecting the proper financing plan is the avoidance of paying too much for the money through bonuses, premiums, and other devices used by private investors and others who are just missing violation of usury laws. To clients unfamiliar with the meaning of bonuses, it would be advisable to demonstrate the effect upon interest rates that the payment of bonuses has, particularly in connection with second mortgage financing, where all sorts of tricks are used to conceal the actual rate of interest paid.

TYPICAL CASE:* Loan, $2,000; period, three years (36 months). Nominal interest rate, 7 per cent. Discount or bonus, $300 (referred to as "5 per cent per year"). Borrower receives $1,700 and pays principal of $2,000, with interest at 7 per cent, in 36 monthly installments of $61.80.

EXPLANATION: By breaking up the loan into payments per month per $100 ($61.80 divided by 17, which is the number of hundreds of dollars received) it is found that $3.62 is paid per month per $100. This is an interest rate of slightly under 18 per cent, so that the "5 per cent per year" in this case actually adds 11 per cent to the interest charged.

Another sharp practice against which the client must be warned is the business of calculating interest on the full amount of an amortization loan instead of on outstanding balances. How this runs up the interest rate may be judged from the following case:

Second mortgage loan of $1,000. Term, two years. Nominal interest rate, 7 per cent. Discount, 15 per cent. If the interest paid for each of the 24 monthly payments was made on the original loan amount, the actual interest rate would be 30 per cent.

Local Sources of Money. Within the larger cities and in towns conveniently located to larger cities, a prospective owner can have his choice of at least a dozen different financing plans, that is, provided he can make a sufficient down payment to interest the more conservative lending agencies. Architects who have had none but wealthy clients in the days when all clients were wealthy might be at a loss to know of other methods of financing. An investigation of the banks, insurance companies, and other mortgage agencies should be made if one is to keep on top of shifting financing conditions.

On page 206 is a chart form which may be used to keep a visual record of local financing conditions. The facts recorded on the chart include all the necessary preliminary data to know which lending agencies are possible sources for particular clients. A card system, employing the same sort of data, may be more suitable to office practice.

If the local financing facilities are not adequate, it may be desirable to set up an agency to supply supplementary financing. In a report submitted to the President's Conference on Home Building and Home Ownership, several unique types of second mortgage companies were described. Two of these

Term	Amortization and Interest Payments	No. of Cases	Term	Amortization and Interest Payments	No. of Cases
1 yr.	1% and int. monthly	3	8 yrs.	6% annl., int. s/a	1
1 yr.	1% and int. s/a	2	8 yrs.	5% mo. pay	1
1 yr.	Others	19	8 yrs.	3% s/a, 139 mo., $10 per mo.	1
2 yrs.	1% per mo. incl. int.	1	111 mos.	$13 per mo., int. mo.	1
3 yrs.	Int. s/a	3			
3 yrs.	10% annl., int. s/a	3	10 yrs.	1% per mo. incl. int.	3
3 yrs.	5% s/a and int. s/a	2	10 yrs.	Others	17
3 yrs.	6–7% int. mo.	2			
3 yrs.	10% annl., int. quart.	2	11 yrs.	1% and int.	1
3 yrs.	Others	36	11 yrs.	7%	1
			11¾ yrs.	6% annl., int. mo.	1
40 mos.	1% int. mo.	1	12 yrs.	1% per mo. incl. int.	1
			12 yrs.	5% annl. reduc. or 1% mo. incl. int.	1
4½ yrs.		1	12 yrs.	Others	2
5 yrs.	10% annl., int. s/a	12			
5 yrs.	5% annl., int. s/a	6			
5 yrs.	20% annl.	4			
5 yrs.	5% annl., int. s/a	3	15 yrs.	5% annl., int. s/a	1
5 yrs.	10% s/a	3	15 yrs.	6% s/a, int. 6% annl.	1
5 yrs.	1% mo. incl. int.	2			
5 yrs.	2% annl., int. s/a	2	20 yrs.	5% annl., int. s/a	1
5 yrs.	5% s/a, int. s/a	2	20 yrs.	4% amort. s/a incl. int	1
5 yrs.	Others	46	20 yrs.	Others	27
				Miscellaneous with no term of loan specified	118
				TOTAL	335

President's Conference on Home Building and Home Ownership

Summary of replies from savings banks throughout the country on amortization loans, showing rates of amortization and how interest is paid. Besides showing the increased diversity in lending methods employed by savings banks, the table may offer suggestions of possible methods to meet particular needs

*From "Present Home Financing Methods," by John M. Gries and Thomas M. Curran. Published by the Department of Commerce.

are reviewed here as possible patterns for the establishment of similar groups in other communities. The work of establishing a lending agency is one that may be shared by all the participating groups in the industry, dealers, contractors, realtors, etc.

ROCHESTER LUMBER COMPANY, ROCHESTER, N. Y.

A 20 per cent initial payment is required. A first mortgage is arranged by the company with one of the savings banks and the balance is retained by the company as a second mortgage. This mortgage is written for five years, and, at the rate of payment, 66⅔ per cent of the amount is paid at the end of that time. The borrower may then either pay the amount due or enter into some new agreement whereby the balance will be refinanced.

Interest is charged at 6 per cent per annum and is paid quarterly with the amortization payments.

If the borrower does not have the required initial payment, but does have 10 per cent of the price of the property, the company will build for him and lease to him for one year, at an amount great enough to pay interest, taxes, and increase the equity to the required 20 per cent. At the end of that time the property is deeded to him and the financing is done as previously described.

PROVIDENCE MORTGAGE CORPORATION, PROVIDENCE, R. I.

The owner must have at least a 25 per cent equity. The company will loan up to 75 per cent of the appraised value on the following terms:

Commission . . . . . 5 per cent
Amortization . . . . . 2 per cent per month
Interest . . . . . 8 per cent paid semi-annually in advance and reduced semiannually as the loan is amortized

It is interesting to note in connection with this company that great importance is attached to the moral risk of the borrower. In listing the elements upon which a company of this type could be organized, Wilson G. Wing, a director, made the following suggestions:

1. Lend only on homes occupied by owners.
2. Make a careful survey of the moral risk.
3. Insist on thorough responsibility of first mortgagor, preferably a financial institution.
4. Require payment of interest in advance, giving an opportunity to anticipate financial difficulties of borrower.

These are only a few of the many types of mortgage companies which can be organized to provide money during a shortage, and to prevent ruinous rates when private investors return to the field.

Month	Outstanding principal during month	Monthly payment	Applied to interest	Applied to principal	Principal due after installment payment
First	$1,000.00	$10.00	$5.00	$5.00	$995.00
Second	995.00	10.00	4.98	5.02	989.98
Third	989.98	10.00	4.95	5.05	984.93
Fourth	984.93	10.00	4.93	5.07	979.86
Fifth	979.86	10.00	4.90	5.10	974.76
Sixth	974.76	10.00	4.88	5.12	969.64
Seventh	969.64	10.00	4.85	5.15	964.49
Eighth	964.49	10.00	4.83	5.17	959.32
Ninth	959.32	10.00	4.80	5.20	954.12
Tenth	954.12	10.00	4.77	5.23	948.89
Eleventh	948.89	10.00	4.75	5.25	943.64
Twelfth	943.64	10.00	4.72	5.28	938.36

Year	Total of monthly payments	Applied to interest	Applied to principal	Principal due at end of year
First	$120.00	$58.36	$61.62	$938.36
Second	120.00	54.56	65.44	872.92
Third	120.00	50.55	69.45	803.47
Fourth	120.00	46.25	73.75	729.72
Fifth	120.00	41.71	78.29	651.44
Sixth	120.00	36.89	83.11	568.33
Seventh	120.00	31.76	88.44	480.09
Eighth	120.00	26.32	93.68	386.41
Ninth	120.00	20.52	99.48	286.93
Tenth	120.00	14.40	105.60	181.33
Eleventh	120.00	7.89	112.11	69.22
Twelfth (7 months)	70.00	1.44	68.56	[1].66

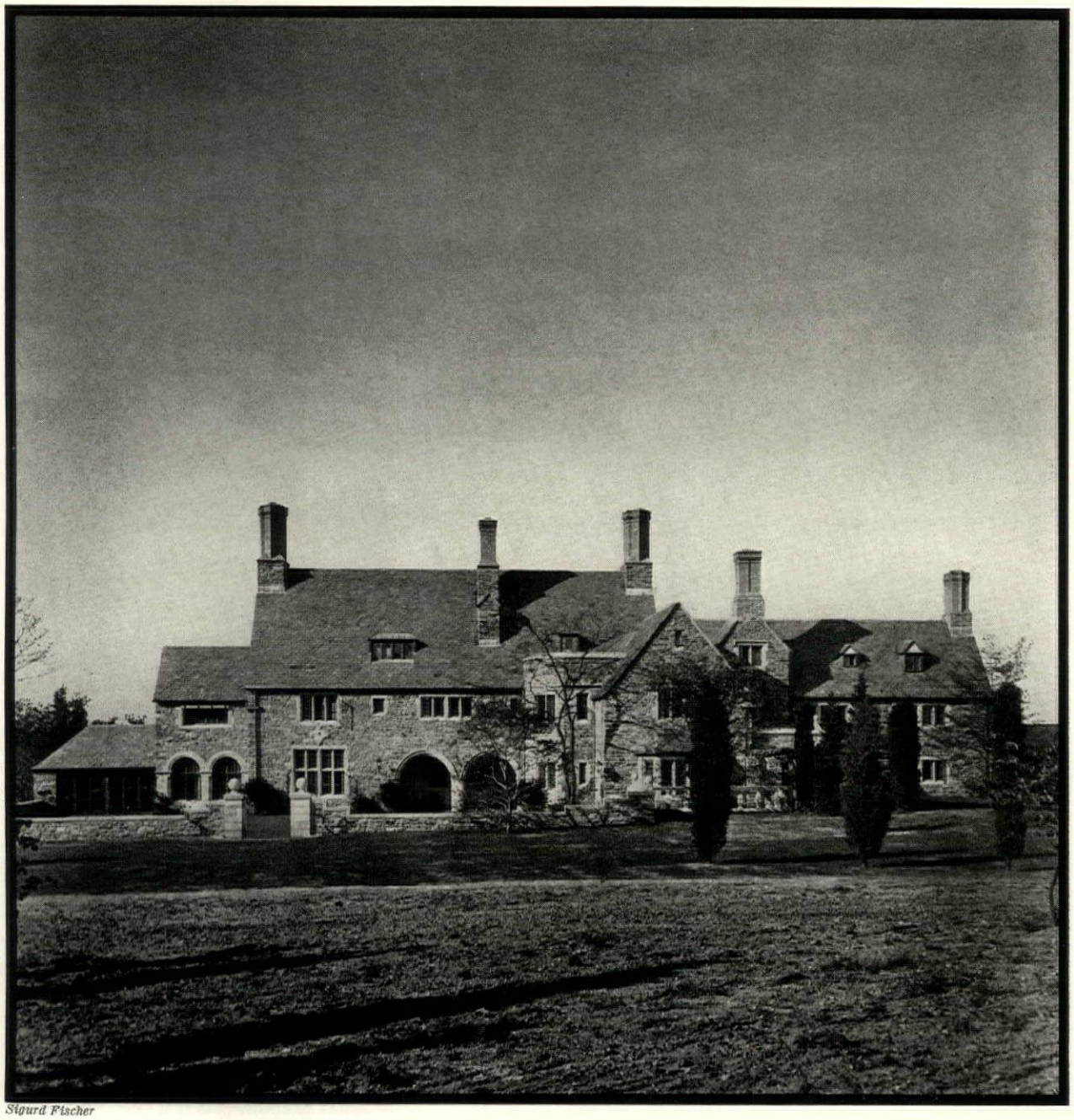
[1] Principal due at end of 7 months.
Courtesy U. S. Department of Commerce

This table, showing how a $1,000 loan at 6 per cent is retired in 11 years, 7 months, by monthly payments of $10, may be useful in explaining amortization to uninitiated clients

Loan period (months)	Interest rates (per cent)																														
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
	Monthly payments																														
12	$8.56	$8.61	$8.65	$8.70	$8.75	$8.79	$8.84	$8.88	$8.93	$8.98	$9.03	$9.07	$9.12	$9.17	$9.22	$9.26	$9.31	$9.36	$9.41	$9.46	$9.50	$9.55	$9.60	$9.65	$9.70	$9.75	$9.80	$9.84	$9.90	$9.95	$10.00
13	7.92	7.96	8.01	8.06	8.10	8.15	8.19	8.24	8.29	8.33	8.38	8.43	8.48	8.52	8.57	8.62	8.67	8.72	8.76	8.81	8.86	8.91	8.96	9.01	9.06	9.10	9.15	9.20	9.25	9.30	9.35
24	4.39	4.43	4.48	4.52	4.57	4.61	4.66	4.71	4.76	4.80	4.85	4.89	4.94	4.99	5.04	5.09	5.14	5.19	5.24	5.29	5.34	5.39	5.44	5.49	5.54	5.59	5.64	5.69	5.75	5.80	5.85
25	4.22	4.27	4.31	4.36	4.40	4.45	4.49	4.54	4.59	4.63	4.68	4.73	4.78	4.83	4.87	4.92	4.97	5.02	5.07	5.12	5.17	5.22	5.27	5.32	5.38	5.43	5.48	5.53	5.58	5.64	5.69
36	3.00	3.04	3.09	3.13	3.18	3.23	3.27	3.32	3.37	3.42	3.47	3.51	3.57	3.62	3.67	3.71	3.77	3.82	3.87	3.92	3.98	4.03	4.08	4.14	4.19	4.25	4.30	4.35	4.41	4.47	4.53
37	2.92	2.97	3.01	3.06	3.11	3.15	3.20	3.25	3.30	3.34	3.39	3.44	3.49	3.54	3.59	3.64	3.69	3.75	3.80	3.85	3.90	3.96	4.01	4.06	4.12	4.17	4.23	4.28	4.34	4.40	4.45
48	2.30	2.35	2.39	2.44	2.49	2.54	2.58	2.63	2.68	2.73	2.78	2.83	2.89	2.94	2.99	3.04	3.10	3.15	3.21	3.26	3.32	3.37	3.43	3.48	3.54	3.60	3.66	3.72	3.78	-----	-----
49	2.26	2.31	2.35	2.40	2.45	2.49	2.54	2.59	2.64	2.69	2.74	2.79	2.84	2.90	2.95	3.00	3.06	3.11	3.17	3.22	3.28	3.33	3.39	3.45	3.50	3.56	3.62	3.68	3.74	-----	-----
60	1.89	1.93	1.98	2.03	2.08	2.12	2.17	2.22	2.28	2.33	2.38	2.43	2.49	2.54	2.59	2.65	2.71	2.76	2.82	2.88	2.94	2.99	3.05	3.11	3.17	-----	-----	-----	-----	-----	-----
61	1.86	1.91	1.95	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.46	2.51	2.57	2.62	2.68	2.74	2.79	2.85	2.91	2.97	3.03	3.09	3.15	-----	-----	-----	-----	-----	-----
72	1.61	1.66	1.70	1.75	1.80	1.85	1.90	1.96	2.01	2.06	2.11	2.17	2.22	2.28	2.34	2.39	2.45	2.51	2.57	2.63	2.69	2.76	-----	-----	-----	-----	-----	-----	-----	-----	-----
84	1.41	1.46	1.51	1.56	1.61	1.66	1.71	1.77	1.82	1.87	1.93	1.99	2.04	2.10	2.16	2.22	2.28	2.34	2.40	2.47	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
96	1.27	1.31	1.36	1.41	1.47	1.52	1.57	1.63	1.68	1.74	1.79	1.85	1.91	1.97	2.03	2.09	2.16	2.22	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
108	1.15	1.20	1.25	1.30	1.35	1.41	1.46	1.52	1.58	1.63	1.69	1.75	1.81	1.88	1.94	2.00															
120	1.06	1.11	1.16	1.21	1.27	1.32	1.38	1.43	1.49	1.55	1.61	1.67	1.74	1.80	1.87	1.93															
132	.99	1.04	1.09	1.14	1.20	1.25	1.31	1.37	1.43	1.49	1.55	1.61	1.68	1.74	1.81	1.88															
139	.95	1.00	1.05	1.11	1.16	1.22	1.28	1.33	1.40	1.46	1.52	1.58	1.65	1.72	1.78	1.85															
144	.92	.98	1.03	1.08	1.14	1.20	1.25	1.31	1.37	1.44	1.50	1.57	1.63	1.70	1.77	1.85															

Courtesy, U. S. Department of Commerce

Table illustrating monthly payments required to pay off a loan of $100 in various periods and at various rates of interest. Reference to this chart will provide a convenient means of determining the actual rate of interest being charged under a financing plan that is either intentionally or unintentionally complicated



Sigurd Fischer

House of Henry U. Harris, Brookville, N. Y. *Roger H. Bullard, Architect*

EIGHT COUNTRY HOUSES

REPRESENTING THE WORK OF

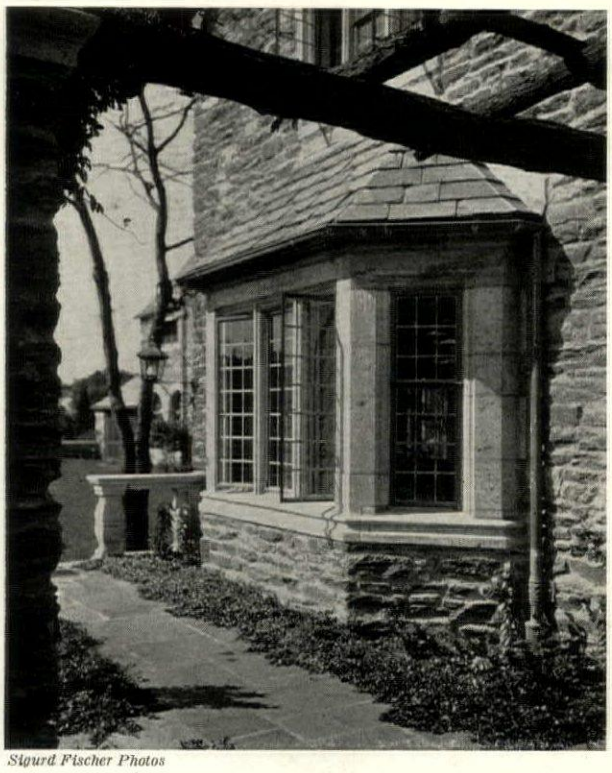
ROGER H. BULLARD
EDGAR & VERNA COOK SALOMONSKY
JOHN BYERS
GORDON B. KAUFMANN
BREO FREEMAN
GABLE & WYANT
RUSSELL WALCOTT & ROBERT WORK

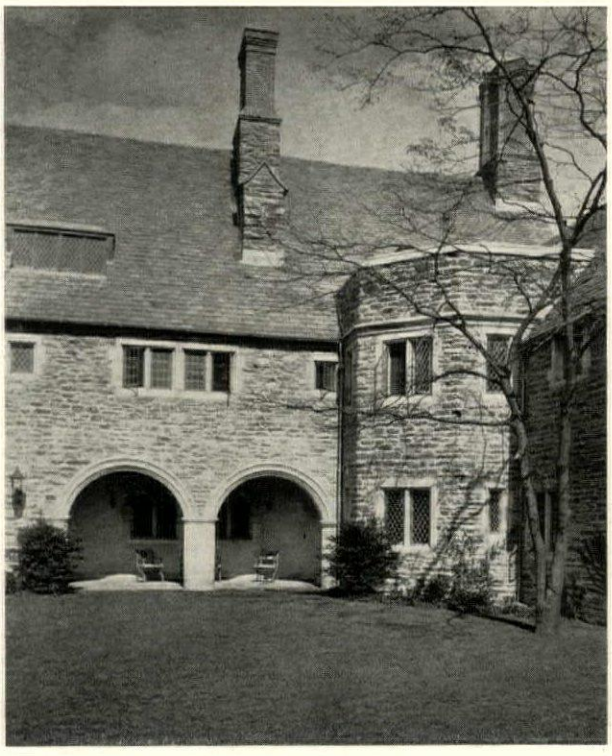


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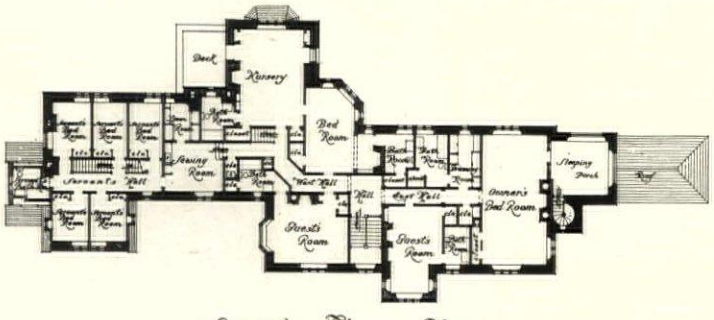
HOUSE OF HENRY U. HARRIS, BROOKVILLE, N. Y.
ROGER H. BULLARD, ARCHITECT

NEW YORK building stone is used for the exterior walls of this country residence, which is constructed largely of reinforced concrete on a concrete foundation. The roof is of random slate, dark grays and greens, and the windows are of the steel casement type with leaded glass. All exterior trim is of buff limestone. Maximum use is made of the interior space, with a children's playroom in the attic and a billiard room in the basement. The typical finish of the first floor rooms is hand-troweled plaster. Most of the second floor rooms are papered, with trim painted to match. The flooring is of oak, except in the entrance hall and living porch, which have flagstone floors. The latter is partially enclosed for winter occupancy. The surrounding garden was landscaped, under the direction of the architect, by Louise Payson

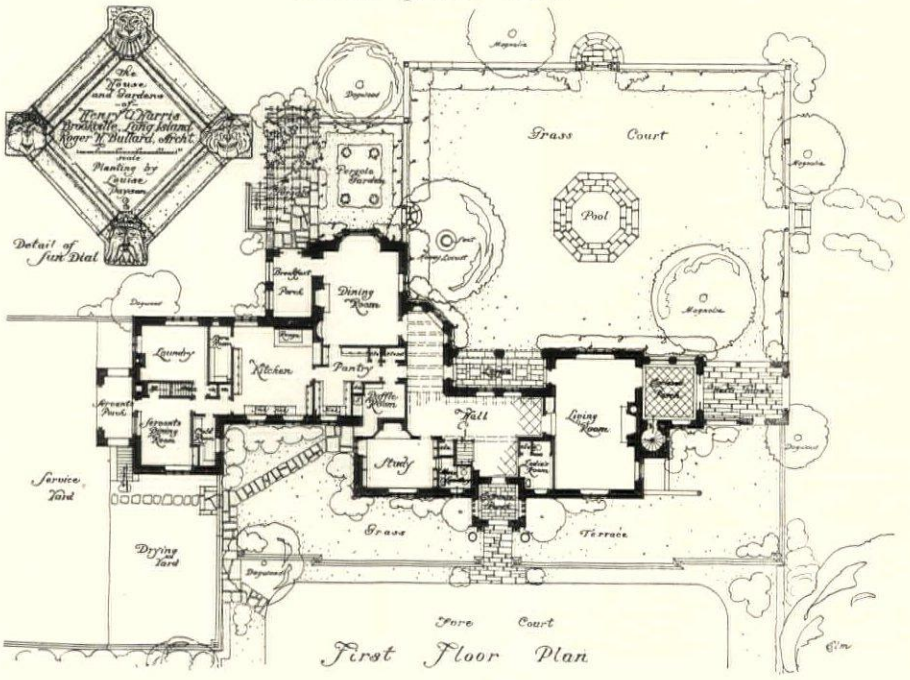




Sigurd Fischer Photos

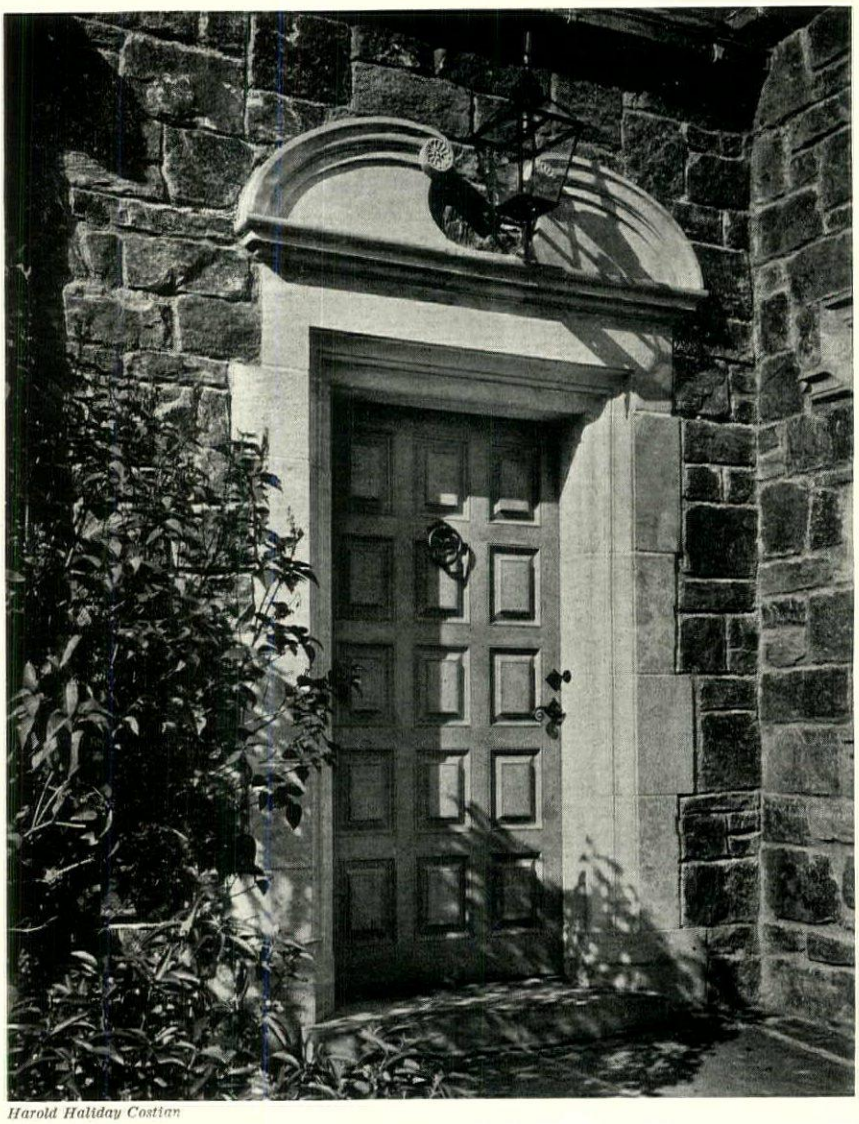


Second Floor Plan



First Floor Plan

Above left, the bay window of the dining room overlooking the pergola garden; right, the loggia opening off the hall and the living room. The plans show the careful analysis of all the requirements of the owner and the studied provision of properly related and proportional rooms adapted to all the various functions of the house



Harold Halliday Costian

HOUSE OF ALEXANDER M. CRANE

SCARSDALE, N. Y.

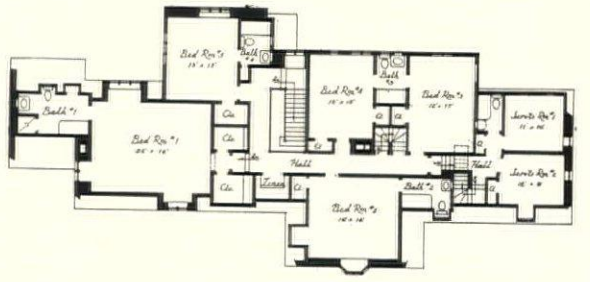
EDGAR & VERNA COOK SALOMONSKY, ARCHITECTS

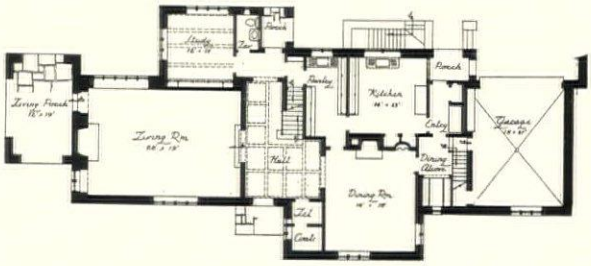
THE rust-faced stone of the exterior walls of this suburban residence is a local stone that is particularly suited to the Cotswold character of the house. Built on a stone foundation, the construction is the usual wood stud type, partially insulated with balsam wool. The exterior trim is buff limestone. The windows are of the leaded glass, casement type, and the roof is of slate, grays and greens, with lead drains, downspouts, etc.

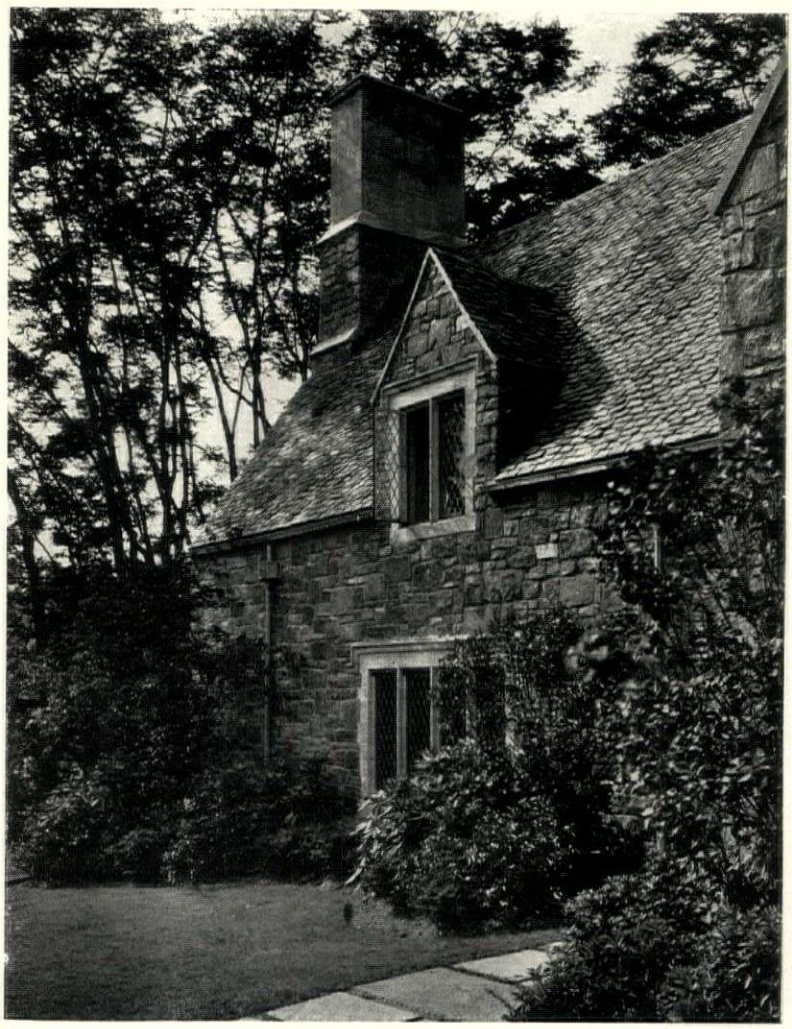
The interiors of the house are varied in their decorative treatment, but all are consistent with the exterior. The flooring is oak, plank in some rooms and strip in others. The walls and ceiling are plaster painted and the partitions are of the lath and plaster type. The house is equipped with modern plumbing, with brass piping and a vapor vacuum heating system with built-in radiators



Harold Halliday Costian Photos









Mott Photos

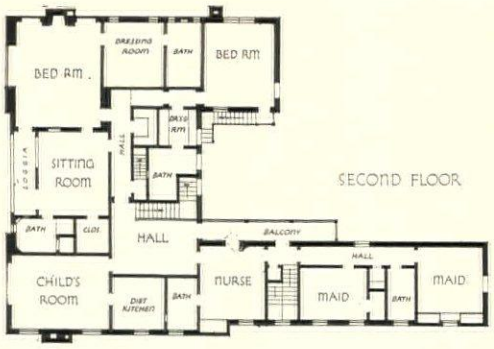


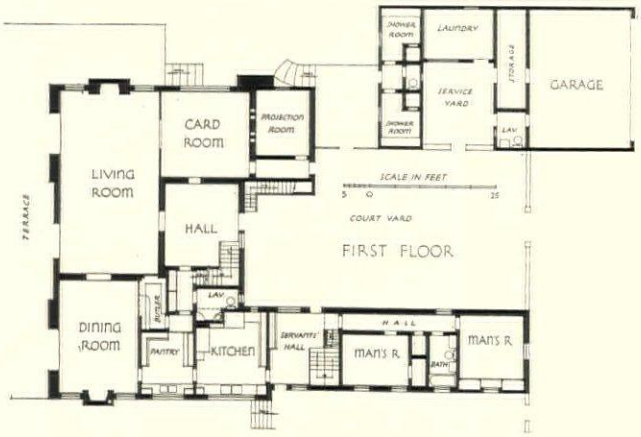
HOUSE OF IRVING THALBERG

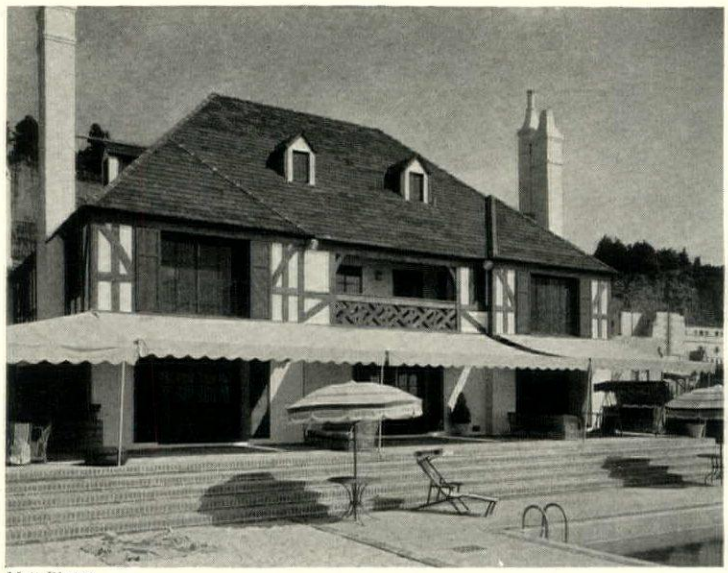
SANTA MONICA, CALIFORNIA

JOHN BYERS, ARCHITECT

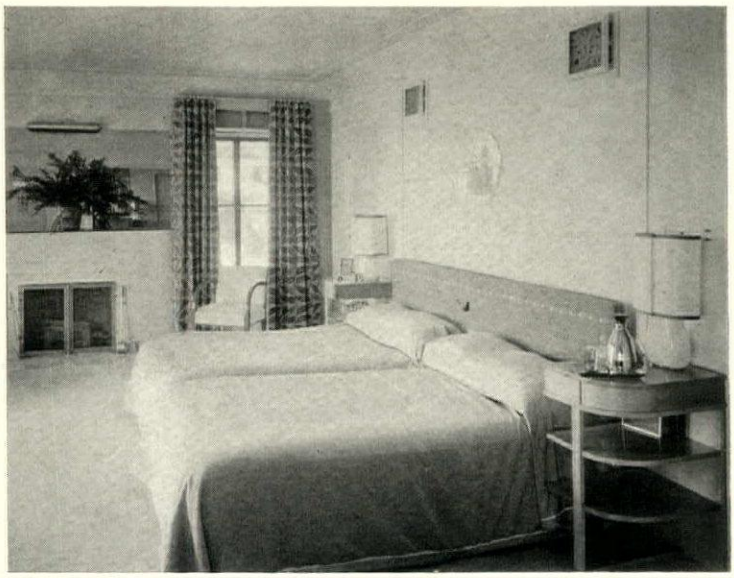
THE living room, above, and the bedroom, left, of this California beach house are restful and refreshing simplicity. The pale yellow of the living room walls, the Botticino marble mantel, the yellow and white upholstery, and the terra cotta and blue-green drapes all contribute to the desired effect. In the bedroom, as in the other rooms of the house, the floor is of oak. The furniture is of honey colored wood, upholstered in white and chartreuse linen. The walls and ceiling are plaster, tinted. The house is of frame construction, built on wood piling, with a stucco and half





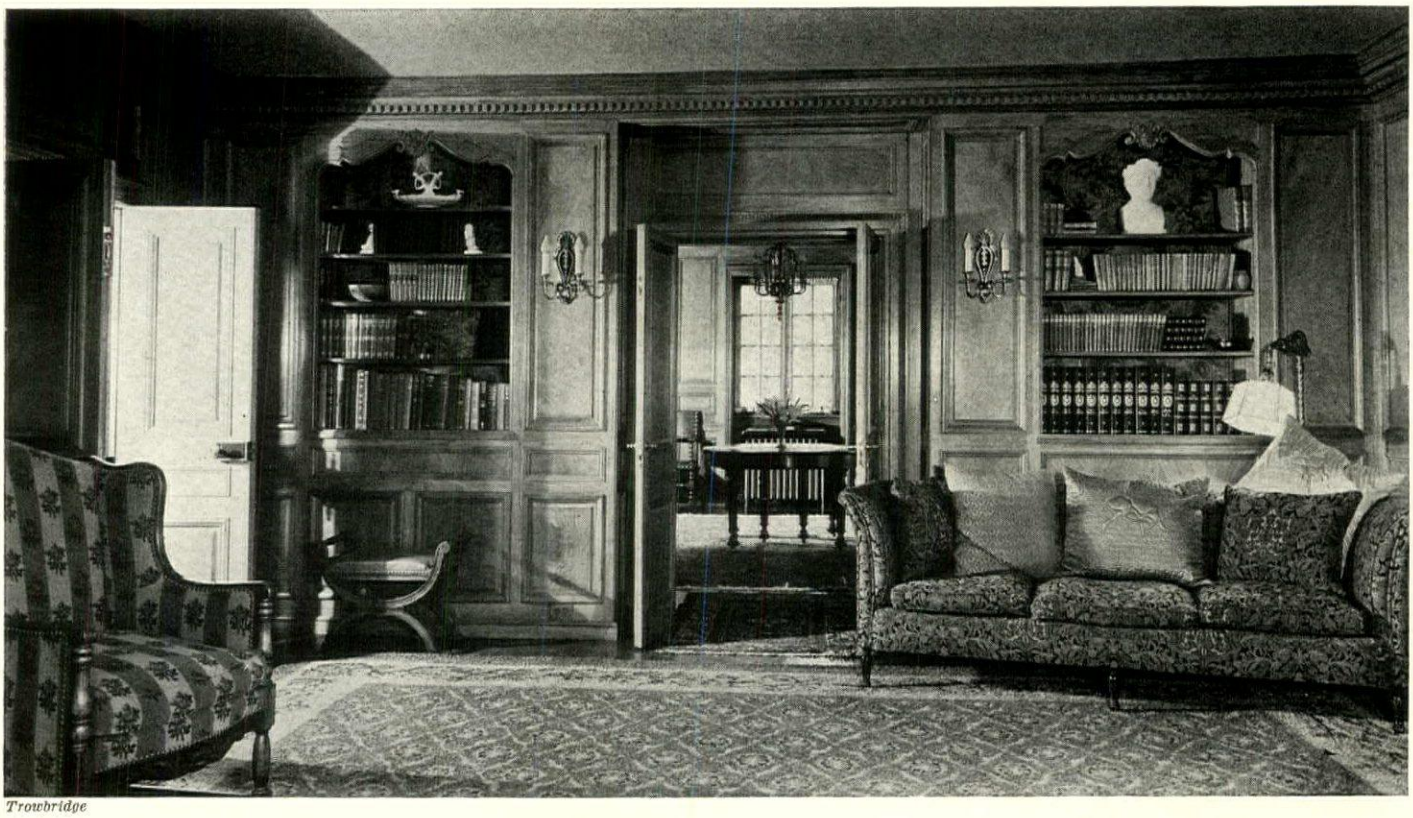


Mott Photos





timber exterior. As may be seen by the grilles in the card room, right, and the bedroom, above right, the house is air conditioned for summer and winter occupancy. The card room or library is equipped for talking motion pictures, the apparatus being concealed behind the wall panels. The library walls fold back, and a screen operated by hydraulic power lifts up through a section of the living room floor. The wall paneling is of Italian walnut, the carpet is soft blue-green. The interior decorator was H. W. Grieve



Trowbridge

HOUSE OF JOHNSTON A. BOWMAN

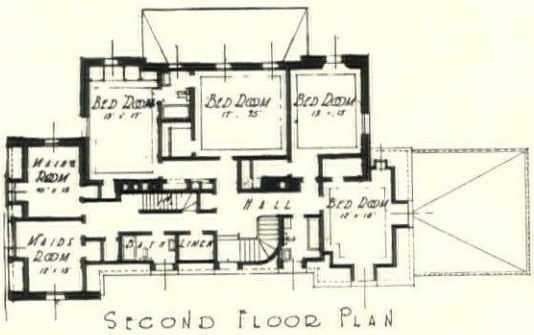
EVANSTON, ILLINOIS

RUSSELL WALCOTT & ROBERT WORK, ARCHITECTS

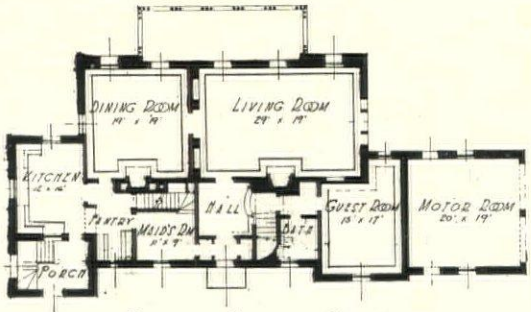
REMINISCENT of the famous châteaus of the Loiré, this residence is adapted to meet the living and social customs of a modern family. Of the usual stud construction, the house has exterior walls of brick, with limestone trim. The house is situated well forward on the lot, and is protected from the driveway by an informal hedge. Over the entrance is a fan-shaped glass marquee. The steeply pitched roof is shingled with slate of various colors, and the enclosed porch at the rear of the house is of cast iron. The windows are of the wood casement type, painted buff to match the limestone trim. Designed to conform with the exterior, the interiors of the first floor are paneled in richly grained wood, with the characteristic beauty of detail. The floors are of oak, except in the service portions where linoleum is used. Each of the bedrooms upstairs is decorated to meet the taste of various members of the family; some are papered, others painted, with painted trim to match



Trowbridge Photos

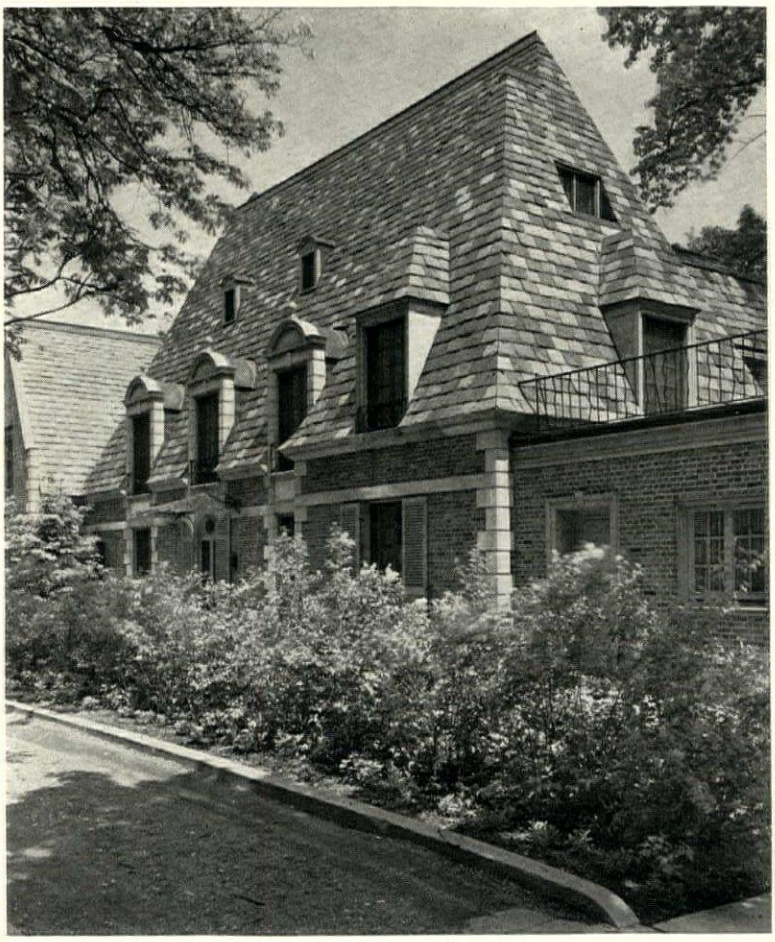


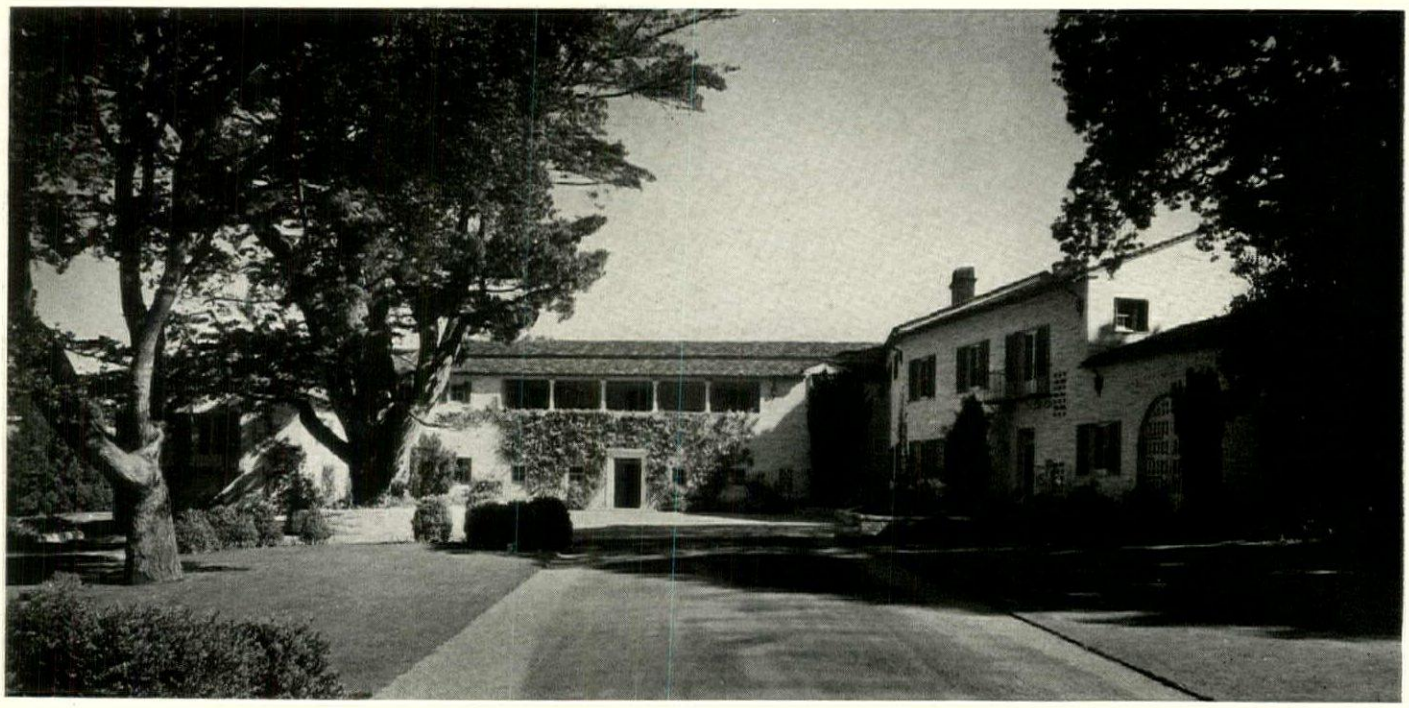
SECOND FLOOR PLAN



FIRST FLOOR PLAN

SCALE OF PLANS





HOUSE OF MR. & MRS. ROBERT B. HENDERSON

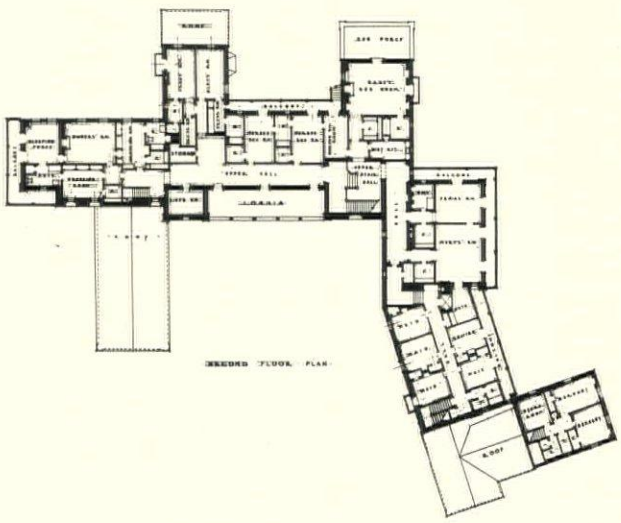
HILLSBOROUGH, CALIFORNIA

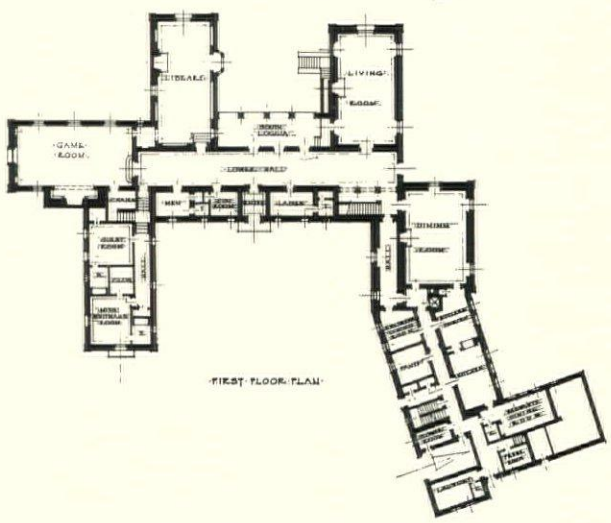


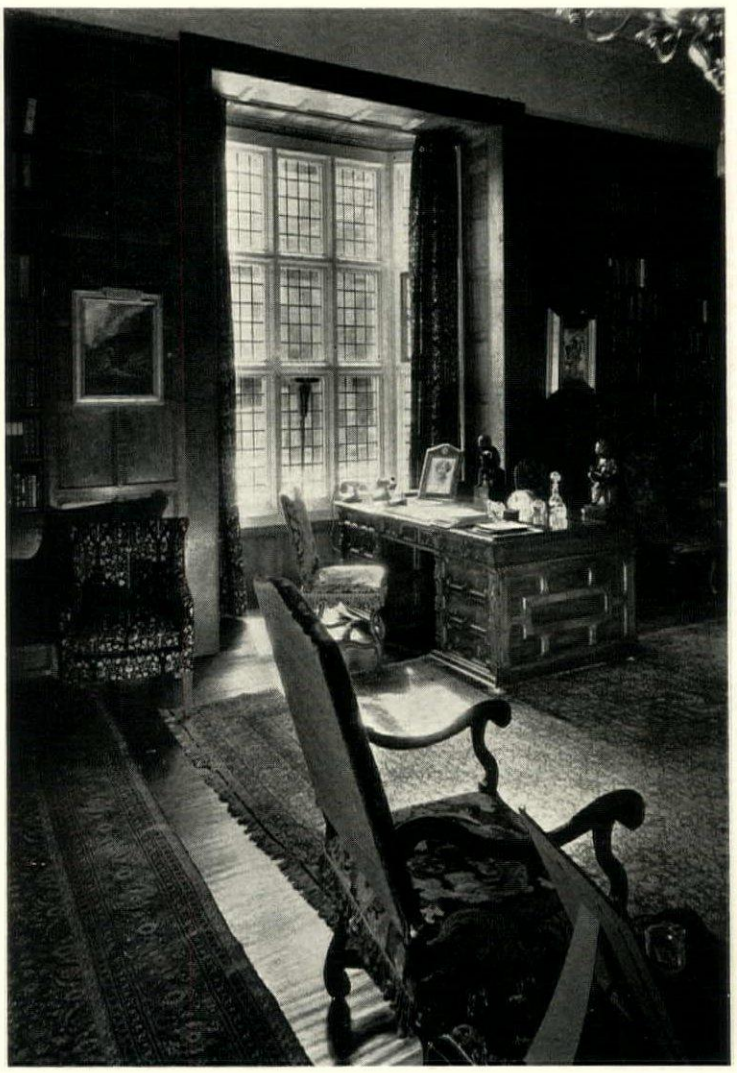
GORDON B. KAUFMANN, ARCHITECT

BUILT of stone tile on a concrete foundation, this California house is a departure in construction, if not in style, from the usual house of that section. Tile shingles, variegated in color, are used for the roof, and most of the windows are of wood, double hung. In the tradition of the style, a balcony encircles part of the house at the second floor level. The interiors vary in treatment and in degree of formality, all in keeping with the exterior design. Beamed ceilings, large fireplaces and carved woods are used in many of the major rooms, and each bedroom is designed to conform with the individual taste of the occupant. The house is equipped with a steam heating plant, and the piping for the plumbing is of brass

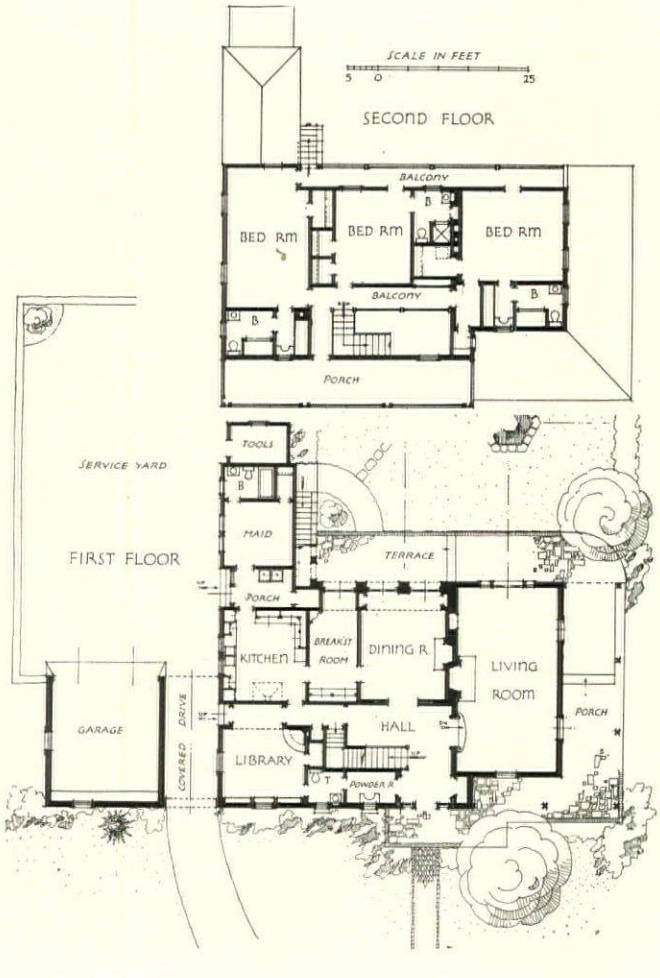





FIRST FLOOR PLAN







HOUSE OF C. E. POLIKOWSKY

ALTADENA, CALIFORNIA

BREO FREEMAN, ARCHITECT

THE California house has many variations, one of which is the Spanish Colonial adaptation of the ranch house, such as is shown here. It is of wood frame construction, with whitewashed stucco exterior. One of the two balconies at the second floor level is completely overhung by the roof, and the other only partially. The exterior stairway leading to the balcony, opposite, is frequently found in houses that have the necessary



Haight Photos



protection from intrusion. In this house there are several Colonial features, notably the main entrance doorway. Another distinctive detail is the triple arch motif of the windows which open out on the terrace at the rear of the house. The covered drive which joins the garage and the house provides partial protection for the service yard, which is screened from the living terrace by the service wing of the house



Mott



Craty

HOUSE OF E. F. CONSIGNY

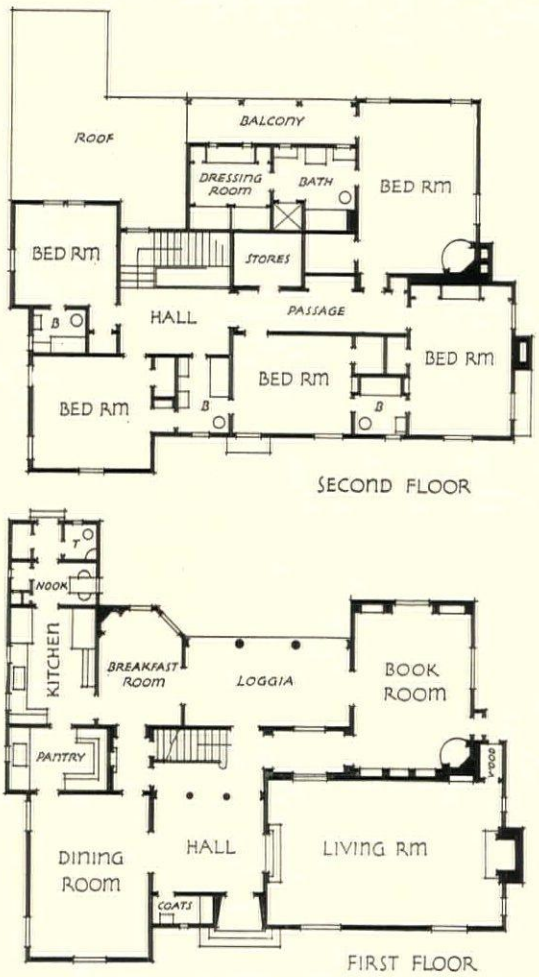
BEVERLY HILLS, CALIFORNIA

GABLE & WYANT, ARCHITECTS

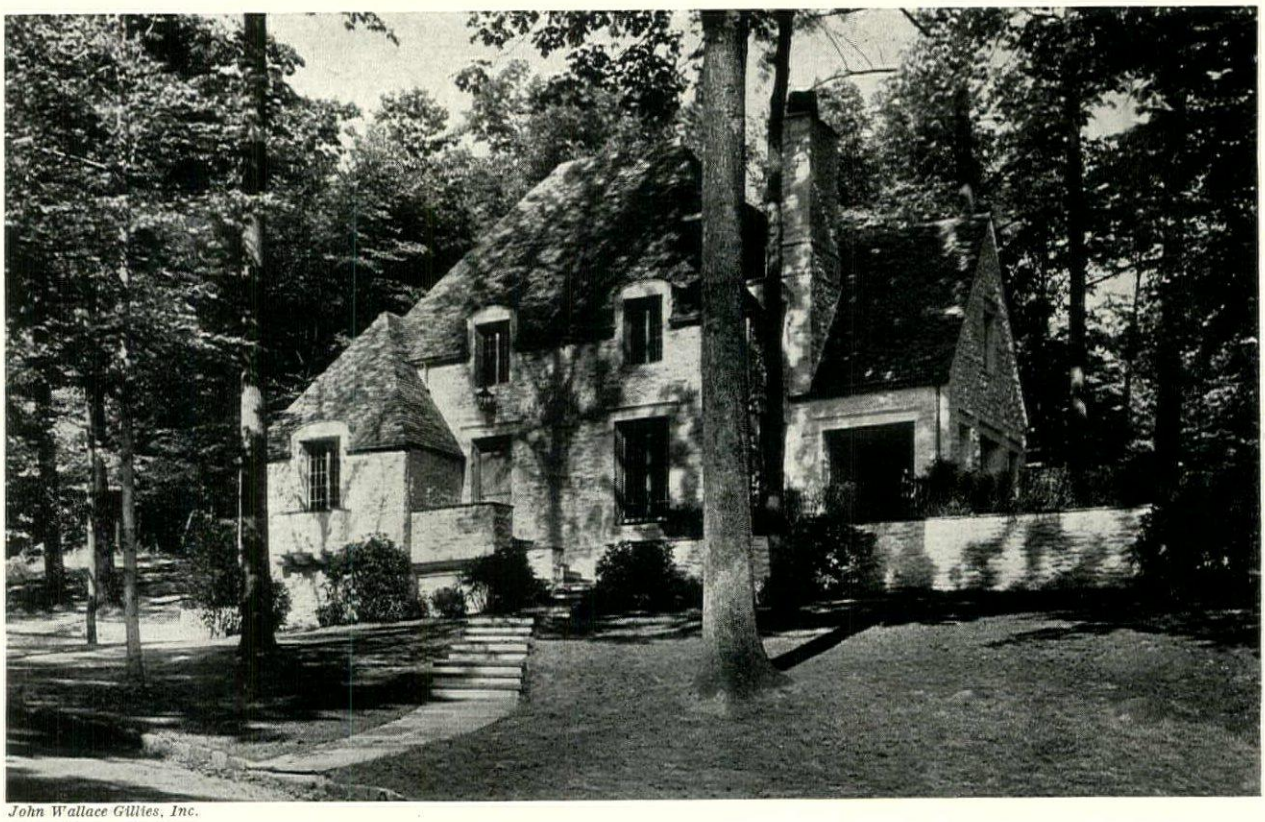
THE Italian villa, illustrated by this suburban house by Gable & Wyant, is as well adapted to the climate and living conditions of California as the Spanish type house. Oriented to obtain maximum comfort both day and night this house is more compact in plan than the usual house of this type. It is of frame construction, with exterior walls of whitewashed stucco and a roof of tile. The windows are wood casement. The window



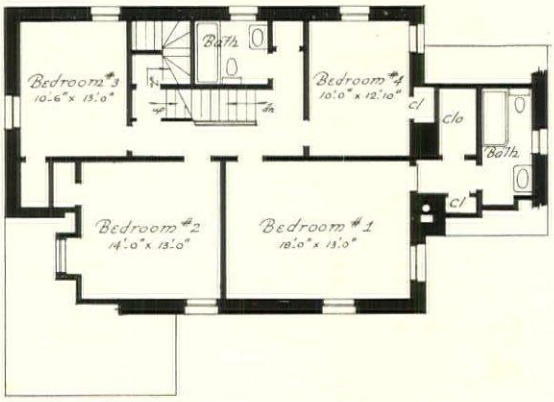
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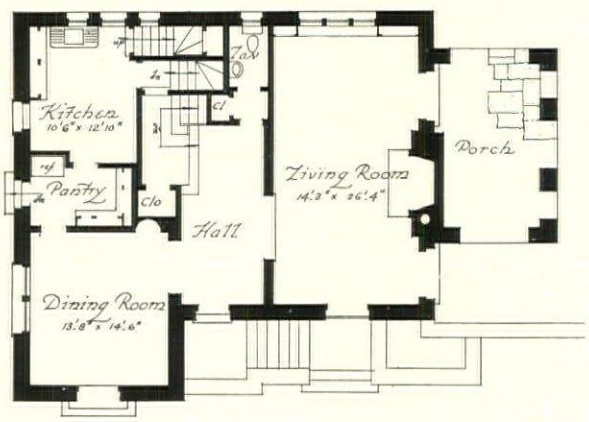


guards, decorative balconies, and exterior lighting fixtures are of wrought iron. The typical interior finish is textured plaster, oil painted, with gumwood trim. The bedroom, bathroom, and kitchen walls are covered with oil painted washable wall fabric, and the trim is of pine. In some rooms the exposed wood beams of the ceiling are painted, and the walls are also decorated. The cost of the house was $31,600



John Wallace Gillies, Inc.





HOUSE OF NORMAN P. GERHARD

SCARSDALE, N. Y.

EDGAR & VERNA COOK SALOMONSKY
ARCHITECTS

WHITEWASHED stone exterior walls and a roof of variegated green slate are combined effectively in this suburban residence. The house is built of frame construction upon a stone foundation. The windows are of the wood casement type painted to match the entrance door. A whitewashed stone wall runs across the front of the house and supports the living terrace that extends beyond one side of the house. The interiors are finished in French provincial style, with oak floors and hand-troweled plaster walls. The bedrooms are papered, with trim painted to match. The heating system is of the hot water type, with thermostatic control and built-in radiators

NEW MATERIALS AND METHODS IN COUNTRY HOUSE CONSTRUCTION

BY ROGER W. SHERMAN

THE concern of this article is with those newer materials and methods of building that imply a greater freedom and utility in the arrangement of the country house. The basic requirements of house construction — protection from weather, firesafeness, stability, relative permanence, sanitation — can be secured by usual methods of building and the ordinary combinations of usual materials which have been considered so frequently in these pages in the past. But the increasing public demand for the more efficient control of noise, of humidity and temperature, and of light have brought new architectural problems. In the solution of the structural problems involved an old material may sometimes be used in a new way; more often, new materials and methods have appeared that show a radical departure from the older methods of design.

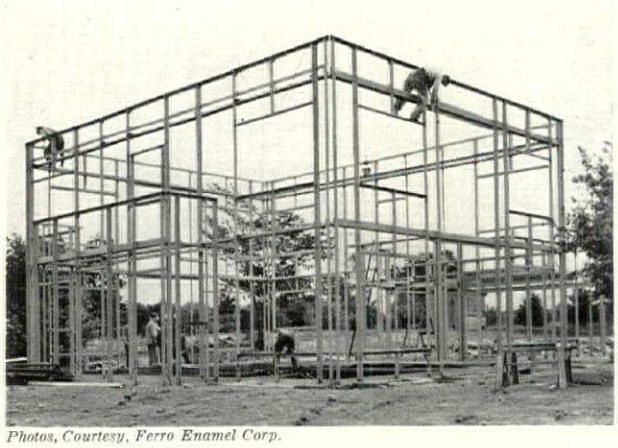
This is true not only as concerns the provisions for the mechanical equipment of the modern country house; it touches also the manner in which a house is now used. The trend is toward a dwelling essentially dynamic: one susceptible to the alterations and additions that the shifting requirements of our present manner of living imposes.

The greatest progress in the development of new structural units has been made with elements of walls, floors, partitions and roofs. Differences in planning and design have had some influence upon these developments, for systems of construction applicable to one type of dwelling cannot always be applied with equal facility or success to all others.

Much experimental work has been done, for example, in devising various kinds of shop-fabricated building units. The avowed object of this experimentation is the elimination of field labor by the shop-assembly of the various parts of a wall, floor partition or roof into panels, requiring only attachment to a structural system at the building site. Theoretically, there is little doubt that such a system of building would save time, money and labor in the field. There is much doubt in the minds of many responsible architects and builders, however, that such schemes are at present practical except for very small houses in the size range below 20,000 cu. ft. The problems of structural design have not been completely solved as yet, and no solution whatever has been demonstrated for the equally intricate problems of cheap manufacture, distribution, or field installation. Further, if these major difficulties could be immediately overcome, there would still remain the negative attitude of yet powerful labor organizations toward any system of building which threatens an increase in unemployment.

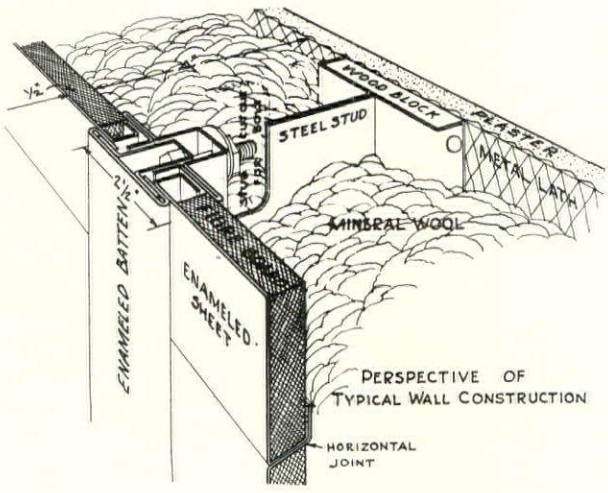
Even in the face of these objections, it must be admitted that completely factory-made building units are capable of ultimate practical application. In a somewhat crude form they have been used for many years. Every architect is more or less familiar with the various brands of precut wooden houses. The development of mass-fabricated panels containing all the essentials of a desirable construction is but a step beyond existing practices and will, in all probability, become one of the common methods of future building. Patent claims have already been allowed for such things as floors that contain heating and air-conditioning ducts and electric service equipment as an essential part of the design, bathrooms which include all the necessary utility and sanitary apparatus as integral parts of the structure, and assemblies which combine window frame, sash, sill, heating and ventilating unit and an efficiently insulated exterior wall spandrel.

Walls. Experimental work with an astounding number of materials and methods of installation has established the fact that a thick, heavy and laboriously constructed wall is not today essential — either as a means of structural support or to provide insulation against weather and temperature. These are further considered throughout the article. A 3-in. wall of modern materials is as efficient an insulator as thirteen inches of solid masonry.



Photos, Courtesy, Ferro Enamel Corp.





Top, bolting together the prefabricated steel frame and placing first floor joists. Center, bridging the light-weight truss joists of the first floor. Bottom, construction details showing form of steel stud, exterior enameled panels and batten, as well as the mineral wool insulation

Framing. Although still subject to experimentation, steel sections are being used more and more for structural frames of houses. During the last two years much progress has been made in the design of such framing schemes and the American Institute of Steel Construction recently announced that during their last convention over fifty plans were submitted that included steel framing.

Steel shapes to replace, member for member, the joists and studs of a wood frame construction are seldom employed, partly due to the expense of the material and partly to the complexity of their erection at the building site. Also, the principle of framing a house like an office building — popular for some time with European architects — is now being displaced by more economical designs of the framing structure. Rolled sections are being replaced in many instances by stamped members made from sheet metal which varies in thickness from 20- to 14-gauge. In some cases the stampings are used for one or both surfaces of the wall and serve as well for the structural support.

The designs of General Houses, Inc. (announced in THE ARCHITECTURAL FORUM, July, 1932), for which Howard T. Fisher was the architect, employ a sheet of pressed metal from 1/16 to 1/8 in. thick for the exterior membrane of the wall, the support being gained from flanges formed at the vertical edges of each wall panel. There is nothing to indicate that it will be manufactured as a standardized addition to the list of currently available building materials. The panel system of the construction makes necessary a house design within the limitations of a modular dimensioning, in this case a 4 ft. unit.

More generally adaptable is the sheet steel wall, newly incorporated in a house sponsored by the Mills G. Clark Company, realtors of Cleveland, Ohio. This construction is formed of 20-gauge steel rectangular "corrugations," 6 in. wide and 2 in. deep. The sections are the height of one story of the house and are welded together at the factory in as large units as may be conveniently handled for installation at the job. Sheets of insulation are cemented to the exterior surface, and with the application of any suitable finish, such as one of the many excellent wallboards, a 3 in. self-supporting insulated wall is formed.

This system is adaptable to a house of any dimensions, for its use does not depend upon a modular plan and it may be employed with any type of architectural design. The right angle form of the steel adds to its strength and the thin gauge of the metal makes for lightness.

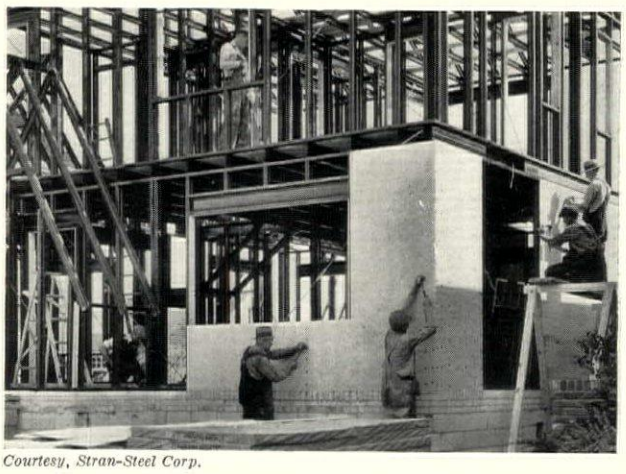
Much work is being done with systems of independent supports constituting a frame to which a wall panel may be attached. Typical of the rolled section frames are those employed by Thomas J. Foster in his system of panel construction and by Charles Bacon Rowley in the house recently de-

signed for the Ferro Enamel Corporation. The former has been designed much after current German practice. In the Foster system columns (4 x 4 in. angles) are widely spaced and are connected at the floors by beams and channels. The walls are precast panels of two materials, the outer one being concrete, reinforced with wire mesh, and the inner one 24 lb. gypsum. These two materials contain the finished surfaces of the wall as an integral part of their manufacture and are separated from one another by small blocks of wood anchored into the materials by small steel clips. This provides an air space that serves as an additional means of insulation. The floor is a thin concrete slab poured on paper-backed wire mesh or on shop-made forms over a framing of light channels of I-beams. The roof and partitions are of light-weight, precast slabs, similar to those of the wall in that they contain the interior finish when they are installed.

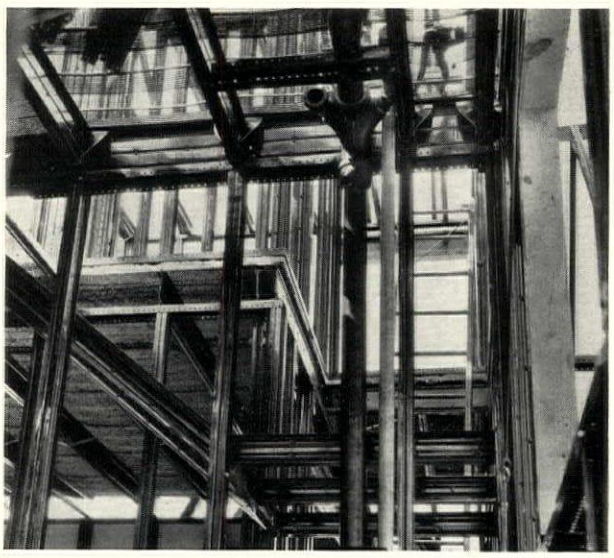
The house designed by Mr. Rowley also used angles for the wall framing, with bar joists for the floor construction. This was later revised, however, and as built in Cleveland the panel method was employed but the studs were of a special design, similar to an I-section, and the floor framing was of solid beams. The studs were spaced closer than those of the Foster house to provide a connection backing for the exterior wall material which is attached by an ingenious system of bolts. The joint lines are covered with a vertical batten of enameled steel which is slipped over a small strip of steel attached to the metal studs. The horizontal joints are not covered. The exterior surface is of enameled iron sheets to which are cemented panels of insulation board. The interior wall surface is the conventional metal lath and plaster, though any of the finish wallboards may be used if desired. The space between the studs is filled with rock wool, an efficient, fireproof and verminproof insulator.

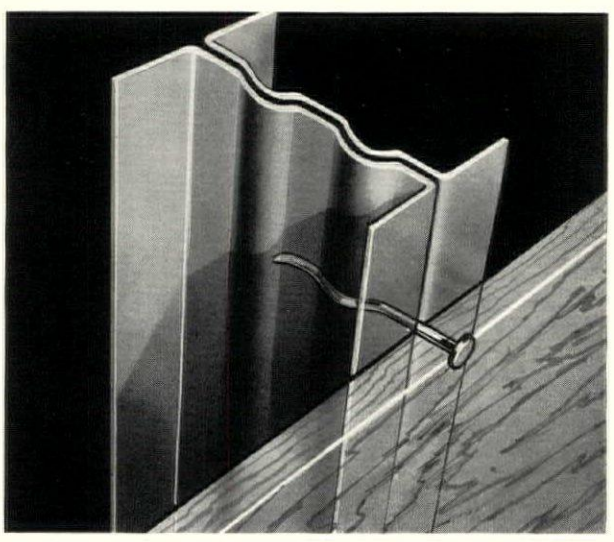
In comparison with many another similar system of building an increased flexibility may be noted here in the generally lighter units of construction. The structural sections are easily handled and require no cumbersome apparatus for their placement; the wall panels may be completely finished at the shop and are light enough to make transportation to the building site — and their subsequent installation — a relatively easy matter. This scheme, however, still limits the designer to a modular unit, unless fabrication became a special matter on every job. This would undoubtedly raise the cost of the units and thus strip the method of building of one of the best justifications for its use.

Framing members of steel stampings have recently been developed by one of the largest manufacturers in the building industry. Originally designed for use in interior office partitions, they have been adapted with slight changes into an efficient, inexpensive and strong frame for the walls of



Courtesy, Stran-Steel Corp.

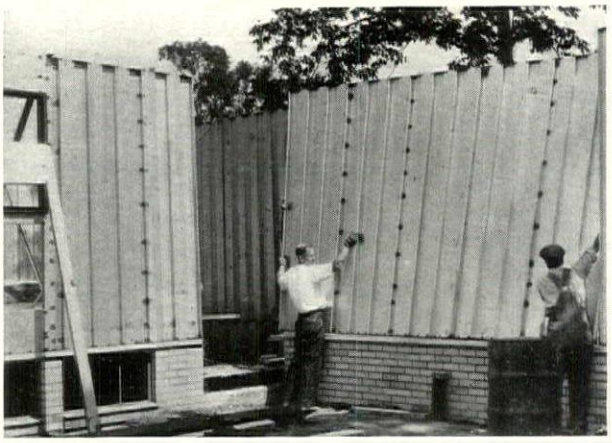


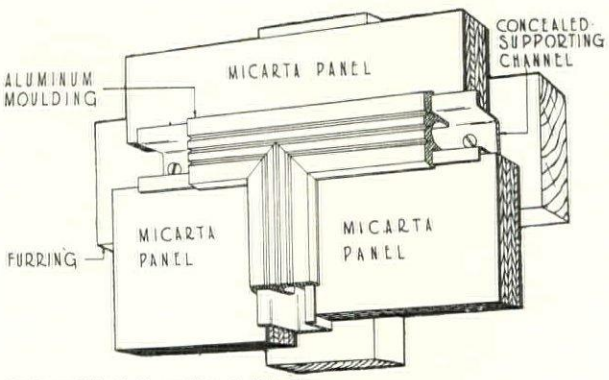


Top, carpenters nailing insulation board to steel studs. Center, portion of framing, showing platform-type construction, stair opening, plumbing stacks, joist hangers and reinforcing for concrete floor slab. Bottom, ¾-in. board being nailed to Stran-Steel stud



Photos, Courtesy, American Rolling Mill Co.





Courtesy, Westinghouse Elec. & Mfg. Co.

Top, panels of frameless steel house being welded in the shop. Center, four men easily put a large welded panel in place. Bottom, detail of an interior partition system showing concealed supporting channels for horizontal and vertical panels

country houses. Consisting of small channels with the flanges reamed to receive lugs that support the wall panels, they are easily erected without the need of special equipment. Their use results in a wall about 4 in. thick with an inner and outer surface member of asbestos cement board and a fill between of loosely compressed rock wool. The completed wall is fireproof, weatherproof, and is unaffected by any of the usual influences of temperature or vermin that tend toward disintegration.

Solid Walls. Paralleling the activity of manufacturers in developing steel frames for houses is the work being done with other types of materials, particularly with concrete and gypsum products. Such materials are permanent, reduce maintenance expense to a minimum, are fireproof, verminproof, and — when properly treated during the course of construction — are weather- and waterproof as well. The companies concerned with their development have recognized that the hindrance to the more extensive use of essentially plastic materials has been the difficulty experienced in their fabrication at the building site. Several significant products and construction methods have been designed to overcome this.

Among the most important is light-weight concrete, now being increasingly used in precast slabs, building blocks and tiles. The use of slabs for walls in connection with steel frames has already been mentioned. Precast, reinforced building units are now commercially available in several other forms. One of these combines structural elements of support with wall sections in the form of cement panels, varying in length from 8 to 16 ft., and in width from 16 in. to 3 ft. Thickness varies also. Another is in the form of a concrete channel, reinforced with ribs. The overall thickness of the flanges is 3 in., the webs being about 1 in. in thickness and the ribs about 2 in. The units are reinforced at the flanges as well as the ribs. They may be used in connection with a steel frame or independently as large tile-slabs. In the latter instance they require wall ties with some sort of masonry backing.

Another reinforced concrete product is cast in the shape of a T. It has been used for walls, floors and for foundations, though its weight and strength make it more suitable in larger residences and commercial buildings than in the average small country house.

In the design of larger residences the possibilities of reinforced brickwork are worthy of consideration as well as the more extensive use of larger sized brick and the possible employment of terra cotta units now available in a variety of sizes, colors and finishes. All these materials are now manufactured to well-defined standards. Most of them may be easily obtained in any section of the country.

Building units of glass are generally available

now. These are slightly larger than a standard size of brick and are cast hollow, the glass itself surrounding a vacuum of 92 per cent. The blocks are made with plain or ribbed surfaces. They are translucent and are manufactured in two shapes: one rectangular and the other a sort of elongated hexagon. Compressive strength is high and the units may be built into a wall like bricks, though a special cement is required for a completely satisfactory construction. Under test for thermal insulation the glass vacuum blocks showed a high rating, 4 in. of glass masonry giving an insulation value equal to 40 in. of ordinary masonry construction. The vacuum feature of the new glass bricks constitutes a great improvement over the solid glass units, though the latter may be obtained in a limited variety of colors.

One gypsum product, recently made commercially available, has wide possibilities for use in country houses. It consists of long, hollow slabs, 4 to 8 in. thick, 6 to 18 in. wide, and up to 20 ft. in height. The slabs are fireproof, but require waterproofing after erection. Compressive strength is not high, and for use as bearing partitions or walls concrete, properly reinforced, is poured into the hollow spaces forming a rigid, economical and integral wall frame. The material can also be used as filler tile in concrete floor construction and when so used is said to save much expense in forming. The units are adaptable for use in any style of architectural design and have given satisfactory results when used with no exterior facing except stucco and with no interior furring beneath lath and plaster.

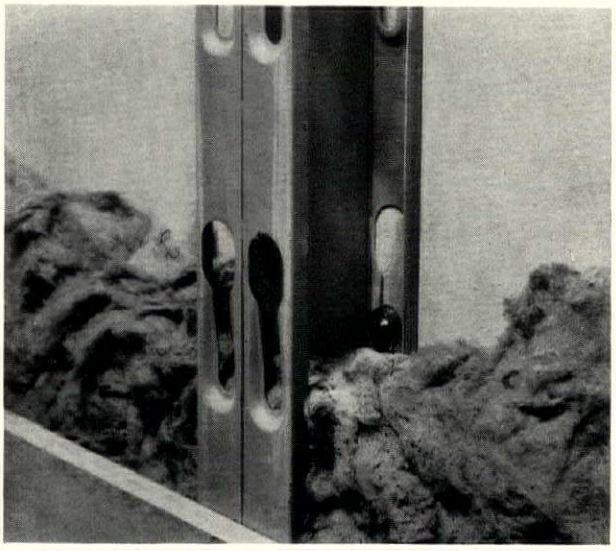
Exterior Materials. Many novel and potentially important products have recently been announced for exteriors of walls, either complete or as finish for a material used as part of the structural wall.

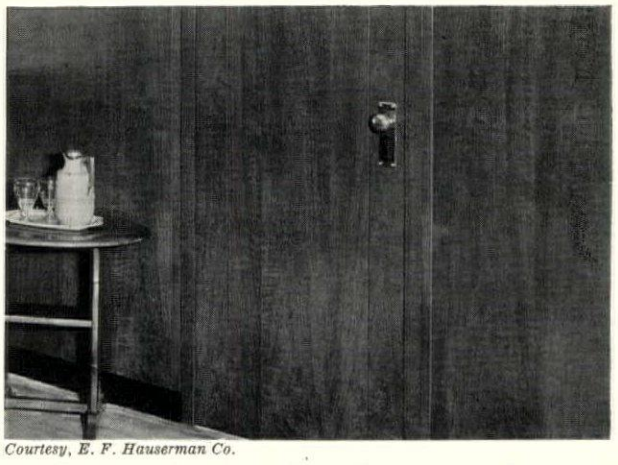
One of the most unusual of these is canvas. Long used for decking, flooring, etc., by naval architects, its application has recently been suggested for the exterior membrane of a dwelling wall. The possibilities of this application have received study from the Cotton Textile Institute and details of the construction are being developed. The canvas is of medium weight and is rendered impervious to moisture and vermin by the application of a waterproofing compound and a subsequent coating of an approved paint or lacquer. The resulting surface can be cleaned almost as easily as a tile wall, is not affected by weather or atmospheric chemicals.

Coatings of phenol composition have played an important part in solving the problem of waterproofing many types of wallboards previously not recommended for exterior use. When coated with this material, plywood paneling, for example, may be safely used on the exterior of a wall without danger of leakage or disintegration of the panel itself



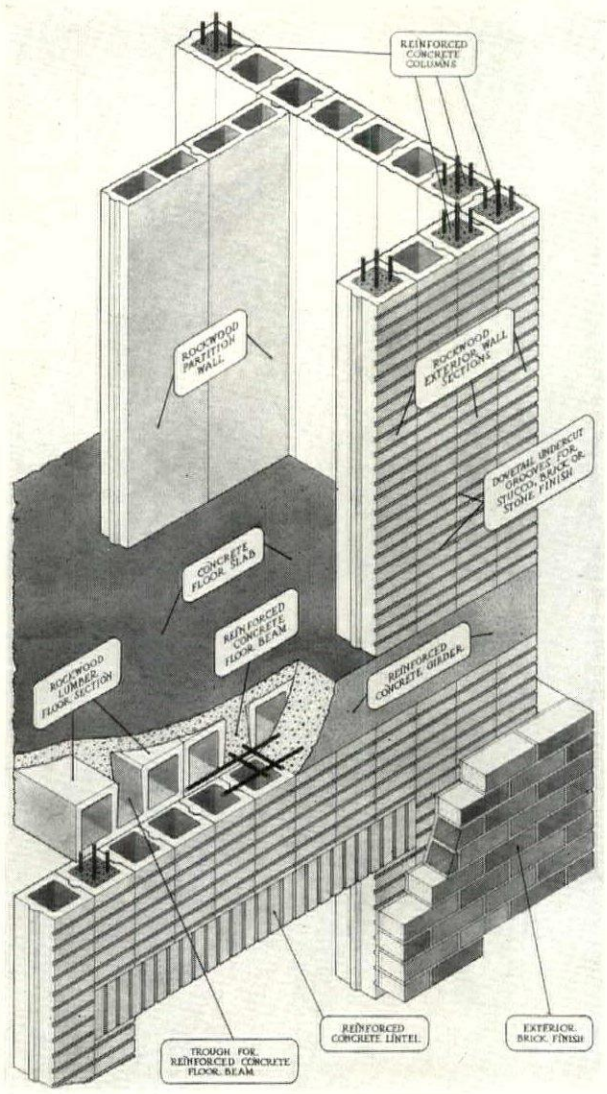
Van Anda — *Courtesy, Johns-Manville, Inc.*





Courtesy, E. F. Hauserman Co.

Top, veneered unit walls, ceiling of acoustic tile. Center, method of assembly and insulation of the unit partitions above. Bottom, a closeup of flush panels and door finished in grained wood effect



Courtesy, Rockwood Gypsum Lumber Co.

Diagram showing a system of precast gypsum units indicating the uses of the various types in country house construction



Courtesy, Owens-Illinois Co.

Using steel wool to clean the block surfaces of a wall made of glass bricks

due to moisture. The further development of a waterproofing binding medium of sheet synthetic resin for plywood has added to the practicality of this type installation.

Asbestos cement board is now being laminated with sheets of fiber insulation to form a three-ply board which is fire-resistant, has a high value as an insulating medium and, with the application of the phenol composition, may be rendered completely waterproof. Similarly, sheet steel, aluminum, zinc and copper are being used for the exterior surfaces of wallboards, the inner core of the combinations being either plywood or insulation. The thickness of the resulting panels varies according to the materials employed and the relative insulation necessary. The thicknesses range from ¼ in. to 2 in. and the sizes are usually limited to a 4 ft. width and a 12 ft. length, though larger sizes may be obtained in some of the combinations.

Products manufactured from wood by pressure and the addition of various chemicals and binders are rapidly taking a place of importance. Waterproofing processes have finally been perfected and many of these products formerly used only for interior purposes may be employed now for exterior walls. The research staff of one large manufacturer has made extensive experiments to incorporate a steel panel truss into a structural wall unit, utilizing one of wood-and-magnesite products for insulation and surfacing.

The use of precast or shop-fabricated panels in country house construction demands the development of a satisfactory method of jointing. This is still a major problem and one which requires much research for its solution. In most of the panel constructions the absence of a drip or water table gives water some opportunity to seep into the wall. Though this does not always imply leakage to the interior, it does indicate a condition that may result in deterioration of the wall materials. It is a particularly important point in an architect's specification, and the present methods of jointing — by means of bolts, clips, wedges, and battens — should be studied in relation to their waterproofing with flashings, gaskets or plastic compounds before they are definitely accepted building construction.

Floors. Many products primarily intended for use as wall units are well adapted to floor construction, and vice versa. For larger residences many of the building practices now common in commercial buildings can be economically employed. This includes the use of many excellent units in precast concrete, clay tile, gypsum and terra cotta. It appears that their acceptance for this purpose has been retarded by two factors. The first is the seeming laxity of the manufacturers to seek new uses for their products and to demonstrate those uses to architects and builders. The second is the fact that

architects and builders themselves have been too prone to refuse the consideration of any constructions that meant a radical deviation from commonly accepted practices in country house building. However, the now obvious trend toward the simplification of building products and technique has recently spurred manufacturers to an unusual activity in the development of new and improved methods of house construction. Several noteworthy floor structures have resulted.

In these steel is a material of prime importance. It is being used not merely as a means of support but also as a sub-surface material. More and more steel is being fabricated in shapes that include the necessary loadbearing characteristics of a spanning member: (1) light weight to facilitate handling, (2) structural economy of materials, (3) units of large size to reduce the effort and time of field installation.

Only recently have steel joists been accepted as a usual means of construction, and it is barely five years since the growing demand for greater efficiency in building methods produced the research activity that is culminating in rapidly changing construction practices today. The bar-joist, for example, marks an effort to reduce weight, insure fire safeness and still maintain effective strength. The recent application of the "battledeck" floor to house construction is another step toward structural efficiency.

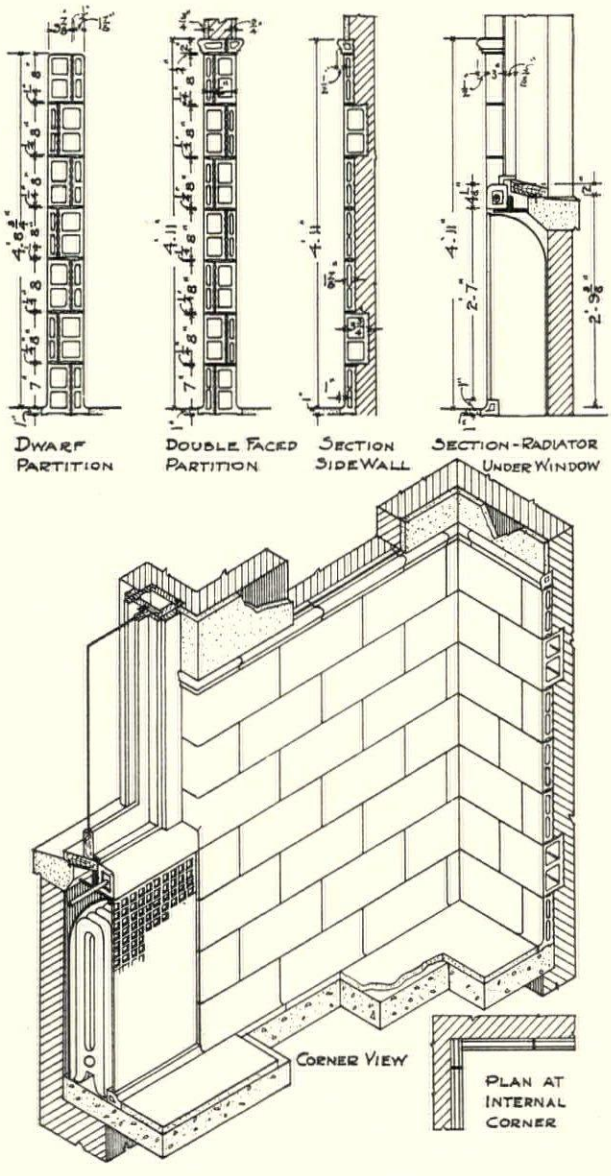
One of the most advanced designs for a steel floor has been recently made available commercially by a large manufacturer of protected steel products. It consists of units from 18 in. to 2 ft. in width and up to 12 ft. in length which are, in effect, cellular, trussed panels, light in weight, strong, and easily handled. The trussed feature of the design comes from a series of bent webs from 3 to 6 in. deep. The webs are crimped at intervals to provide added rigidity and are welded to a steel plate forming cells which provide a series of natural conduits for pipes and wires. In some instances they may also be used as heating or air conditioning ducts, or may be packed with insulation when the floor is to be used without a basement or as a roof deck. The compact design should save field labor in erection. Connection to other members of the construction may be accomplished easily by arc welding at the building site.

Similar in principle to this system is a flooring of stamped metal developed for the houses in Cleveland, Ohio, sponsored by the Mills G. Clark Company. The units of this construction are in the form of 18-gauge steel Z's, 6 in. deep. When welded together with a 1 in. overlap a hollow floor consisting of a series of boxlike tubes is formed. The weight is 6.18 lbs. per sq. ft. and the strength of the assembly is said to be exceptionally great. The assembly is covered with insulation cemented to the metal surface with a structural adhesive, the underside forming the ceiling of the room below.

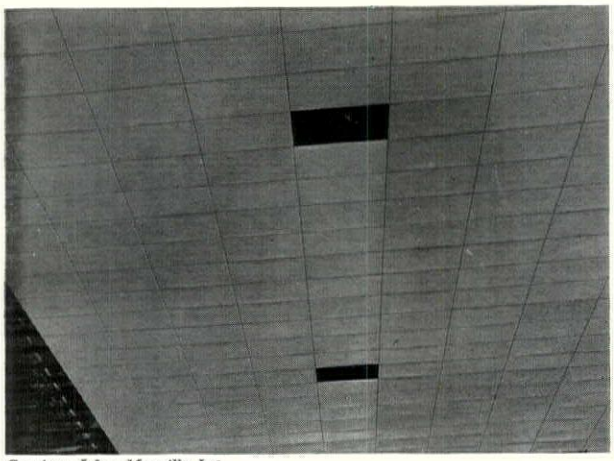


Courtesy, Atlantic Terra Cotta Co.

Glazed terra cotta wall of a country house laundry



Details of construction of sanitary glazed terra cotta interior walls and partitions



Courtesy, Johns-Manville, Inc.

Acoustic ceiling of tile showing ease with which electric outlet boxes may be made available or relocated



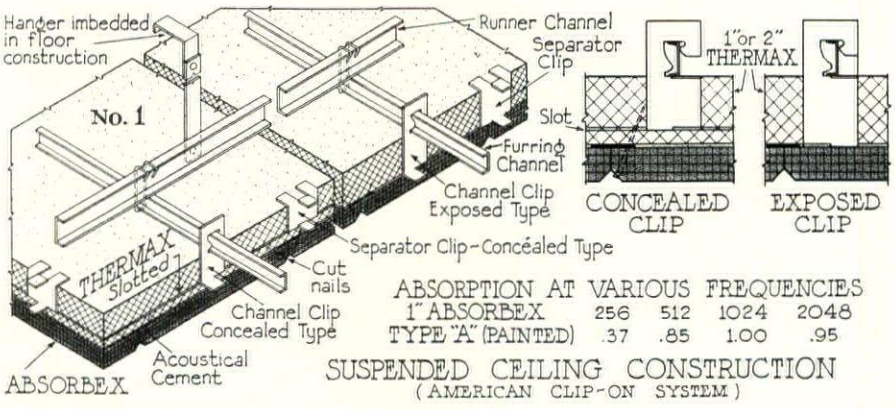
Courtesy, Structural Gypsum Co.

Gypsum plank floor unit, having tongue-and-groove edges of steel, is easily installed to make an incombustible floor

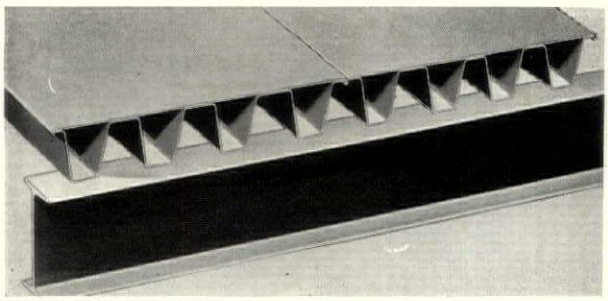
Several systems of construction employ steel for the framing supports and for connection members but employ a variety of materials for the subsurfacing. The new product of one large company, for example, is in the form of long planks of gypsum edged with metal flanges that, when laid, form a continuous, firmly locked surface. Another material which is used similarly is excelsior, treated with magnesite and molded into a rigid panel which may be used with almost any sort of joist. These panels are of many similar types of structural insulation, are moisture- and vermin-proof, highly resistant to fire and in combination with other materials produce a satisfactory dwelling floor. Products of this type have been used also for permanent forms in poured concrete construction. This use — first developed in Germany with a structural insulation mat called *Solomit* — saves at least one operation of building, as the material lining the walls and ceilings of the interior may be plastered without furring.

One of the most recent developments in floor construction is the use of plywood, fiberboard insulation and a finishing surface of wood, rubber tile or linoleum over bar joists. This construction was used extensively in the Hall of Science recently completed for The Century of Progress Exposition in Chicago, and should prove to be especially economical and efficient for a country house.

Partitions. Coincident with the demand for the more intensive use of dwelling space, especially in small houses, has come the need for thinner, more efficient partitions — even, in some cases, removable ones that may be taken down and relocated easily when the need arises. To fulfill this need, which though not now general appears to be growing, manufacturers have perfected at least two types of movable partitions; one of a collapsible fabric which, guided by tracks in floor and ceiling, may be stored in a wall pocket when not in use; the other is the better-known accordion door. The fabric partition is made of heavy, sound-deadening material and is adaptable to almost any problem requiring temporary subdivision within a house, for its operation is simple and it needs but little space for installation and concealment. In some instances the same results may be accomplished by the installation of sliding doors where they may be concealed in a double permanent partition. If the doors are made from sheets of plywood or from laminations of some

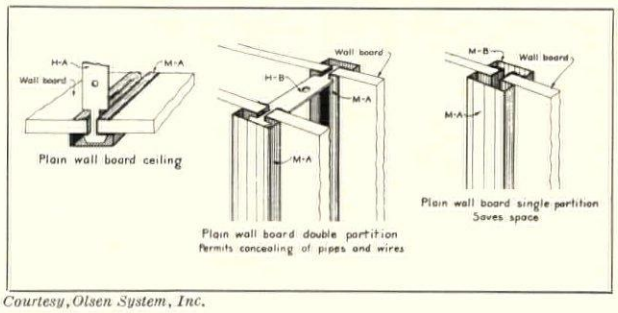


Details of a system for installing furred ceilings of incombustible acoustic tile



Courtesy, H. H. Robertson Co.

Steel floor unit which combines flush floor surface with box-like supporting section in panel units



Courtesy, Olsen System, Inc.

Details of a simple, effective partition system showing the interlocking units which hold the wallboard in place

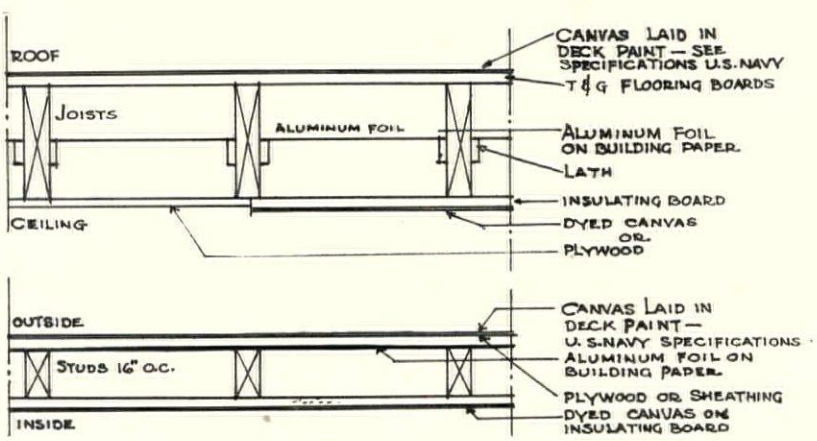
of the many synthetic panel compositions the objection to their cumbersome operation and appearance is easily overcome.

Development of semipermanent partitions, especially for use in country houses, has been slight. The extent of their use depends largely upon the requirements of the owner and also upon the structural design of the house itself. The practice now current of making most of the interior partitions "bearing partitions" is unnecessary with the modern means of construction already mentioned in this article. Many of the light constructions, mentioned also in connection with walls, are adaptable for nonbearing interior partitions. Since their construction is entirely dry, they may be altered with little inconvenience and moved to a new location with little or no damage to the materials with which they are built.

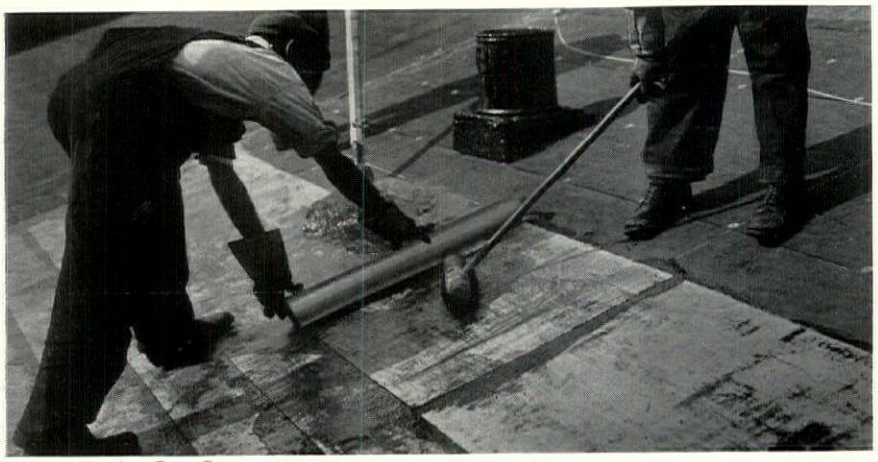
There are now commercially available two types of partitions, which though recently developed for office use, should be adaptable in a dwelling also. One is a much improved flush surface sectional partition with metal frames and panels, but without the exterior beads and clips that usually are characteristic of the type. The installation is easy and rapid, and since the panels are fitted with a packing of sound insulation they would adequately fulfill the need for a movable and yet stable wall. The panel joints show merely as a groove in the surface. They might easily be filled and the entire wall covered with one of the many fabrics, with linoleum or with paint. The other type is essentially a system of framing, designed to receive two membranes of a standard type of wallboard. The frame is small in section and light in weight, but it is strong enough to serve as a practical partition, particularly when the wallboard is of the rigid type and the space between the two sheets is filled with insulation board. Both types are standardized as to structural units and require no special preparation of space for their installation.

Finish Materials. Research in almost every department of building construction has shown the desirability of eliminating moisture from the building processes at the site. With few exceptions the recent new structural materials which may be used also for exterior or interior finishes have been developed primarily for dry construction. There has been much effort also to combine the elements of structure and finish in one product, but in some cases where this has been impractical materials for finish have been designed so that their application would produce the least confusion of trades and so that any subsequent change could be accomplished with a minimum of effort.

There has been much productive research, particularly in the field of plastics. Formerly used almost exclusively for comparatively small molded objects, plastic compositions are now being manu-



Details of floor and wall system using aluminum foil as insulation and canvas as finish material. Developed by Kocher & Frey, architects



Courtesy, American Brass Co.

Applying a new form of roofing material composed of thin copper sheets on a fiber backing. The flexible roll is applied with hot mopped asphalt

factured in large thin sheets of many excellent colors which may be used either as exterior or interior finishes. The sheets are highly resistant to every ordinary corrosive agent, they are weather- and water-proof and do not support combustion. This type of material is particularly applicable to paneled interiors and though the sheets are limited in size, the possibilities of its design and application are almost unlimited. The material may also be obtained in molded members for window stools, bases, etc.

Somewhat similar to the plastic finishes are those manufactured from chemically treated wood. One of these — a three-ply panel — has a smooth surface that may be lacquered, painted or waxed and is available in single sheets up to 30 ft. in length. The product is dense in texture yet very light in weight and the laminated structure gives it an unusual structural strength.

Several new products have been added to the list of applied wall coverings. The desirable qualities of a linoleum surface can now be applied to walls like wall paper. Rolls of thin linoleum can be cemented to almost any surface with a special adhesive in the same manner that is used to produce a flush paneling with rolls of thin veneer backed with a strong fabric. Similarly, aluminum backed with a strong paper is now available for wall coverings as well as various metallized fabrics. The resulting surfaces are said to be superior to those obtained by the use of the metal paints or foils.

For ceilings one large manufacturer has developed a system of demountable tiles, pierced to absorb sound, that may be installed in connection with a metal floor construction on a simple suspended frame of light metal. When the tiles are installed the joints are barely noticeable for battens are not necessary. The installation of such a ceiling gives a great flexibility in lighting, for a single outlet in the center of the ceiling behind the finish will serve fixtures that may be installed at any part of the surface. Extension cords from the center outlet are easily reached, for each tile may be removed independently, fitted with a fixture and its location changed at will. The salvage value of such a ceiling is obviously 100 per cent, and the tiles may also be used on the walls, if desired.

Miscellaneous. It is obviously impossible to list *all* the recent materials and products. There are literally hundreds of items already manufactured as standard for various purposes that need only the application of a thoughtful imagination to be advantageously used in the design and construction of country houses. To cite but one example: There exist many types of steel roof decks designed to heavy standards for industrial construction. They may be put to excellent use in country houses, either for the same roofing purpose or as an important structural unit of a floor. In the latter case they may be surfaced with any one of the many insulating boards and finished as desired. The result of using the roof deck has been firesafeness and time-saving with a probable increased building efficiency and ease of possible alteration.

The point is this: The modern country house is no longer a relatively standardized and completely solved problem in structure and design. Materials, products and construction methods are in a state of rapid flux. New developments are announced almost daily, each one following the trend toward simplicity in design, material and building practices. As the coordinator of these materials and practices, and as his client's professional adviser, the architect's obvious duty is to make a thorough study of their possibilities in his own work. The items that have been mentioned here indicate that progress is definite; they have been selected as proof that in all branches of structural concern the manufacturer is accepting the responsibility of research and development today. Each item mentioned can be useful to the progressive architect, and behind all of these and many more lies a store of pertinent information that will make the country house, or any building, of tomorrow more efficient than that of today.

HEATING AND AIR CONDITIONING

STEAM, hot water or warm air; coal, oil or gas? Making a choice among these heating mediums and fuels was the only problem confronting the architect in his design of the country house heating plant a few years ago. Today the problem is somewhat more complex because even the layman speaks glibly of air conditioning.

Where to draw the line between heating, ventilating and air conditioning is not yet agreed upon. Possibly a majority believe that if one function other than heating is performed we are air conditioning. Since most of the modern house heating systems fulfill this requirement we are probably not open to serious criticism if we speak increasingly often in terms of conditioning rather than just of heating.

The various types of systems can be classified in a variety of ways. The classification which follows is a general one which groups them in the order of their increasing desirability and cost:

1. Straight heating.
2. Automatic heating, by adding an oil, gas or coal-fired device to straight heating, with suitable controls.
3. Automatic heating with provision for air circulation.
4. Automatic heating with humidification and/or air cleaning.
5. Automatic heating with cooling and dehumidifying in addition to humidifying and cleaning.

Straight Heating. Where, because of cost or other considerations, only straight heating is preferred, the architect's problem is fairly simple, and has been discussed in these pages, but recent developments are worth consideration. There is a wide range of controls which makes the heating semi-automatic. There are available individual radiator controls which, by varying the quantity of steam or water admitted, control the radiator output and consequently the room temperature. Another type obtains the same results by controlling the amount of air allowed to escape from the radiator, an increase in air-binding decreasing the heat emission.

Concealed and cabinet type radiators of fin, or extended surface, construction, made of non-ferrous metals, are desirable. If water heating is used, however, the fin type radiator should be investigated before it is chosen, as some makes have not worked satisfactorily with hot water. A rather new development, a cast iron convector heater, may be able to overcome this difficulty, and has some worthwhile advantages.

While the client may not care to install automatic heating or air conditioning equipment while the house is being built, he may wish to do this at some future time. The position of the boiler or furnace, the number of windows in the basement, the disposal of pipes or ducts, can all be arranged for with this in mind when designing the house.

Trouble still arises from inadequate or poorly

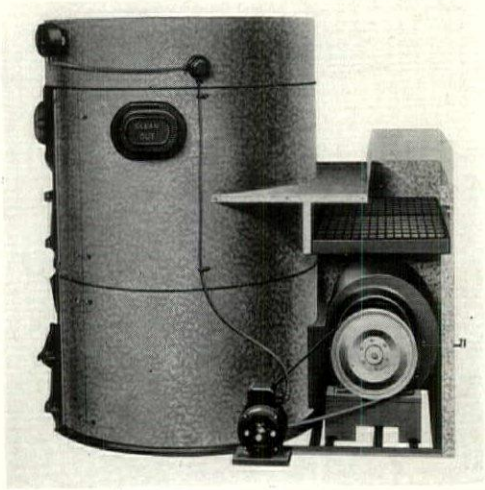


Courtesy, York Ice Machinery Corp.



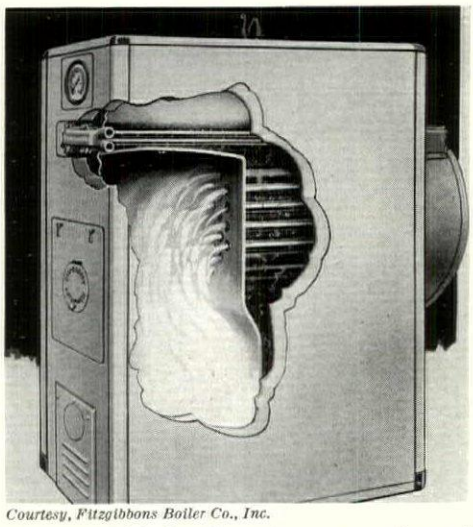
Courtesy, General Electric Co.

Two units that are typical of the general trend to incorporate good design into residence heating and air conditioning equipment. Left, a unit conditioner for room installation; right, an oil burning furnace



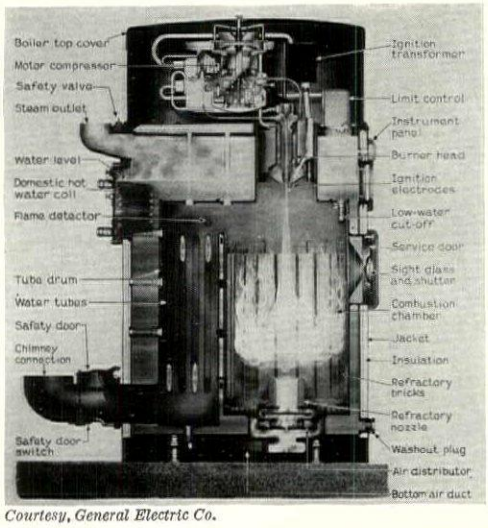
Courtesy, Fox Furnace Co.

Warm air circulating unit, including furnace, drip humidifier, centrifugal belt-driven fan, controls and dry air filters



Courtesy, Fitzgibbons Boiler Co., Inc.

Copper-steel boiler for rotary or gun type oil burner, with heating coils incorporated in the unit to replace storage tank



Courtesy, General Electric Co.

Diagram of newly developed oil burner and boiler unit, in which is also incorporated a hot water heater for domestic use

designed chimneys. A chimney of insufficient height or area may add to the appearance of the building, but becomes a serious fault on cold damp days when the heating system works poorly.*

Consideration should be given to insulation, especially in connection with the possibility of the future modernizing of the heating plant. The primary advantage of insulation is in the saving of fuel, and in case the more expensive fuels are ever used it will be decidedly more difficult to insulate then than when building. This is also true if it is ever decided to install cooling, for at best cooling is expensive, and the building should be well insulated. Too, even without cooling, insulation at least will keep the heat out in the summer to such an extent as to be a considerable factor in comfort.

The heat loss from an average home uninsulated and without double windows or weatherstrips is about 35 per cent through the walls, 20 per cent through ceilings and roofs, 20 per cent through windows and 25 per cent by infiltration around windows and doors. Half of the loss through walls, ceilings and roofs can be stopped by good insulation — and good weatherstripping will prevent 75 per cent of the air leakage loss.

Automatic Heating. Stokers are more or less semiautomatic, and oil and gas are nearly the ideal fuels. Natural gas will be used where available. In many sections manufactured gas can be burned, as the rates are fair, while in other territories the rates are distinctly high. The ultimate selection is largely a matter of what the client cares to pay for operating costs.

If gas is selected, the chimney should be lined with terra cotta or tile, with well-cemented joints, to protect it against deterioration from condensation. This is particularly important in case the fuel has a high hydrogen content. The chimney should be not less than 8 in. thick, should have a cleanout door at the lowest point, and should not be connected to the fireplace or kitchen equipment. In the case of high cost manufactured gas, pipes and ducts might well be insulated somewhat better than ordinarily.

If oil is to be used, the burner should be made by a reliable manufacturer, and the dealer should be one who has established competent service in the neighborhood. The specifications should call for free inspection and service for the first three months of the first heating season. Boiler-burner and furnace-burner units are available, with the boiler or furnace especially designed for the burner and for oil. These are somewhat more desirable than the ordinary coal boiler fitted up with an oil burner (because of slightly higher efficiency). The oil tank should be provided with a direct-reading gauge to indicate the amount

*Committee of Ten, Coal and Heating Industries, has prepared a valuable booklet available on request covering this subject.

of fuel on hand. All oil lines should be laid before the basement floor is finished. The fill pipe for the tank should be near the curb so that a short hose from the truck can be used.

One of the advantages of burning the fluid fuels is that the basement can be adapted as a games room or study. Not infrequently, however, architects fail to keep this in mind when planning the windows for the basement. The ordinary tiny windows in the basement do not give sufficient ventilation and the poor light makes the room undesirable in the day.

With automatic heating the architect should figure the radiation carefully in order to prevent over and underheating, which may occur because the system is controlled from one thermostat in one room. The thermostat should be provided for, possibly on a panel, about 5 ft. from the floor in a carefully selected spot in the living room, away from drafts, cold walls, stairs and radiators.

AIR CONDITIONING

Air Movement. As far as house installations go, air movement was formerly neglected unless a warm air system or ventilating fans were used. The modern warm air furnace system now has a centrifugal fan which can overcome considerable frictional resistance. Radiator heat, however, is now obtainable with this feature, as there are a number of units on the market with blowers which circulate the air through the radiator. They often are equipped with filters and with apparatus for humidifying and even cooling. These are similar in some respects to the unit ventilators so widely used in school work.

There are combination systems, too, which have air movement features. Some supplement the radiator heating system, in which case the boiler supplies heat to the usual radiators in most rooms, and also to the conditioner. The latter is connected to a duct system, and by means of a blower forces the heated — and usually filtered and humidified — air to certain rooms. Some have a combination boiler and conditioner encased in one jacket.

One disadvantage of the old gravity warm air system was that large clumsy ducts were required. The newer conditioning models, because of their fans, have small rectangular ducts which need no slope and require little headroom — an advantage when the basement is to be devoted to room use. Particularly if the house is large, preliminary calculations should be made to determine whether or not allowance need be made in the walls for these ducts to upstairs rooms. The method of calculating has been simplified and standardized within the last few months.*

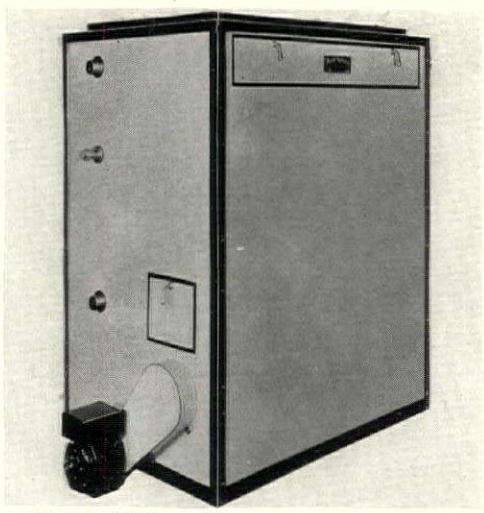
Objectional noise may be produced if the ducts

* Code for Mechanical Warm Air Furnace Systems, National Warm Air Heating Association.



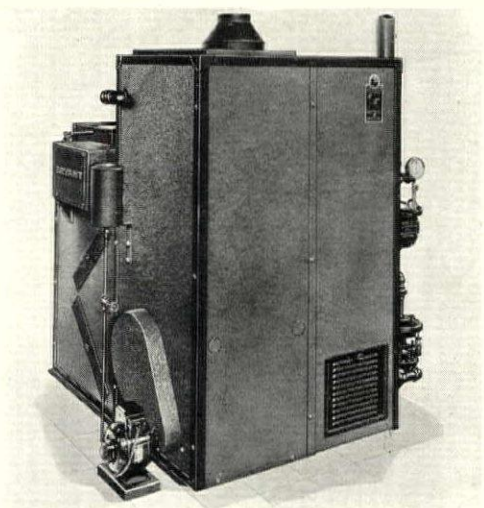
Courtesy, The Trane Co.

Conditioning unit, including furnace, humidifier, fan, controls and filter. Separate cooling unit may be attached



Courtesy, American Blower Co.

Conditioner unit, consisting of fans, cloth bag type filters, two dry heating and cooling surfaces, humidifier and controls



Courtesy, Bryant Heater & Mfg. Co.

Gas-fired boiler unit built integrally with fan, humidifier, filters, and fin-type steam heated surface

in a fan system are not carefully laid out. Sometimes this is due to too small ducts at different points. The fan itself may be the source, if the diameter is too small, necessitating too high speeds, or when the housing or wheel has been poorly designed. In large houses, where a large flat duct might be used, care should be taken to see that the proper gauge sheet metal is required in the specifications and that no large flat area is poorly supported.

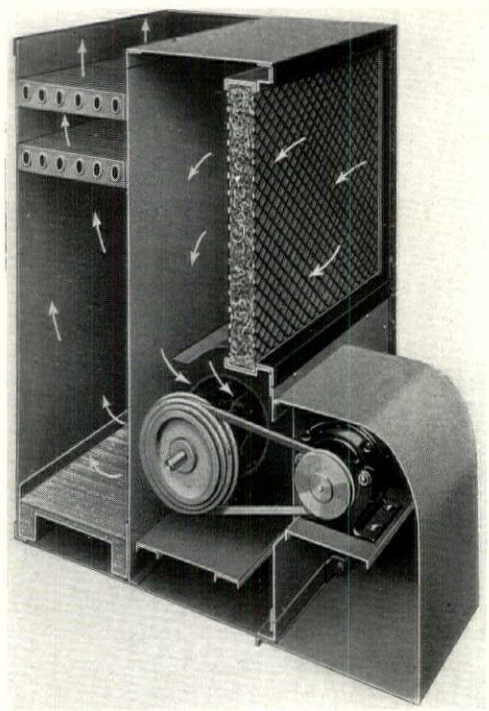
Humidification. Humidification is the most common of the new functions of conditioning. Like the other functions of air conditioning on which we have not yet touched, humidifying is almost entirely a matter of equipment. Indeed, cleaning, humidifying and cooling are all so closely tied up with the equipment selected — and with each other — that a discussion of them is largely a study of available apparatus.

The importance of humidifying is still debatable. There is some, but not a lot of evidence that the too dry air in the home or apartment is responsible for much respiratory illness. The architect must use his own judgment in advising clients as to this point. It is reasonable to suppose that the low relative humidity in homes is not healthy, and it is indisputable that such conditions as do prevail cause damage to furniture and woodwork.

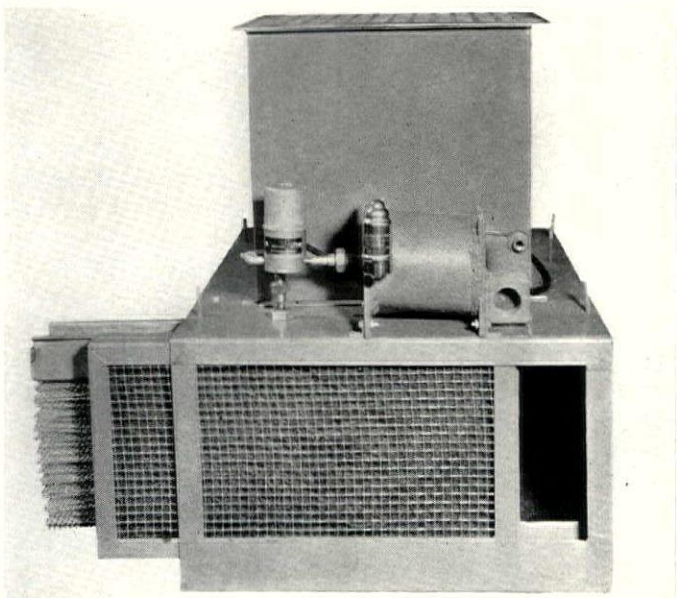
Humidifying can be obtained in combination with any type of system used, or alone. Possibly the simplest means for increasing the humidity is by use of a portable room humidifier, or by an attachment or added unit on the warm air furnace. The former is available in models of all sizes, some of which evaporate moisture by heating, others by atomization. These are filled with water by hand, and require connection only to a source of electric current. They will, for the most part, evaporate enough water to satisfy the occupants, but have the disadvantage of being rather clumsy, and the filling is often forgotten.

The warm air conditioner, or the indirect conditioner, usually has either a pan-type humidifier or a washer. The former is as often as not practically worthless, but in the other 50 per cent of the cases it works quite satisfactorily. It depends entirely on the design of the apparatus. Types which supply steam to the pan are quite satisfactory. The better ones are automatically filled, being connected to the water line, but few of them are controlled in the sense that they maintain a given condition of humidity in the house. The washer type is generally desirable, but it also depends on the design or make. Both the washer and pan-type humidifier can be controlled, although not all are equipped to be. In case a room instrument for controlling the humidity is desired, it should be installed on the same panel with the thermostat.

There are also humidifying radiators which can be placed in rooms where desired. They are usually of the cabinet type, but may be concealed or recessed units, supplied with heat from the boiler. They heat and humidify, and in some cases circulate and clean the air. Some are made of cast iron, the water being evaporated by passing over the heated surfaces, and some are extended-surface radiators, with mechanical atomizers. Both types are in common use for residence work.



Courtesy, C. A. Dunham Co.



Courtesy, General Electric Co.

Two types of humidifier and filter units, which may be used for cooling and dehumidifying when connected to refrigerant

Cleaning. The country air rarely needs cleaning. There is much evidence, however, to show that filters are an aid in reducing the quantity of pollen which aggravates hay-fever. Window filters which are self contained are available.

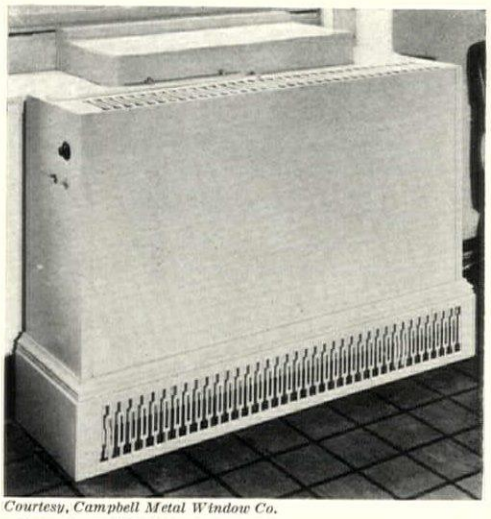
Integral Conditioners. The majority of warm air conditioners are made up of the usual furnace, with units added as desired to perform the other functions required. A fan can be added, a filter hooked on to that, and a humidifier or washer added to them. The integral type, however, includes all of them in one casing, and the additional functions do not require extra equipment. The filter is in most cases a paper, mineral wool or viscous type. This is also true of the filters of indirect conditioners, which almost invariably have provision for cleaning the air. Depending on the model, many humidifying radiators or room cabinets have filters. In such cases, they are equipped with fans to overcome the resistance. These make a desirable unit.

Cooling and Dehumidifying. The dehumidifying is usually accomplished when the air, on being chilled by passing over the cooling surface, has its capacity for carrying moisture reduced, so that the moisture condenses out. When the cool air mixes with the warmer air in the room, the cool air cools the mixture, but as it is warmed its relative humidity drops from saturation to a more desirable point. The dehumidifying is thus a by-product of the cooling.

Cooling can be accomplished by three means: ice, mechanically, or cold well water. In some of the cooler climates, the ground water temperatures in the summer are such that cooling of the air can be satisfactorily obtained by circulating it over coils or surfaces through which the cold water is passing. This is quite a desirable method, but the combination of a sufficient supply of cheap water at low enough temperatures is not found any too frequently.

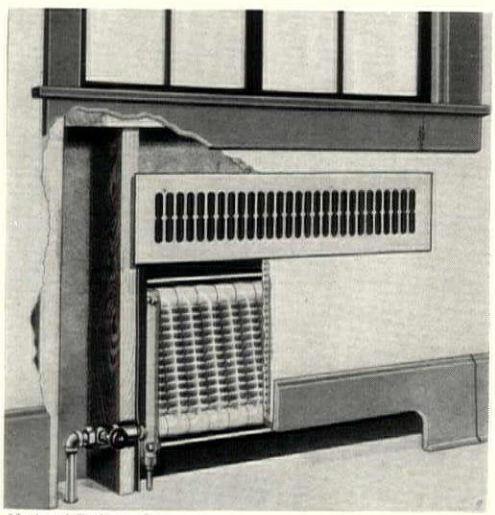
It seems reasonable to expect that ice cooling has a rather bright future for cooling homes. Its principal advantage is that the first cost of necessary equipment is low. Disadvantages are the inconvenience of charging the ice and the fairly high cost of the ice itself. The system is simple, consisting of a well-insulated tank with a charging door, and with sharp sprays to melt the ice. The water is pumped from the bottom of the tank through the cooling coils, or to suitable heating surfaces in the rooms. The cool water gives up its heat in the room and is pumped back through the melting sprays.

Portable room coolers, using ice, are rather large and clumsy, though useful where there are invalids. The mechanical room cooler is, as a rule, a cabinet containing a heat exchanging surface, with the refrigerating compressor located in the basement.



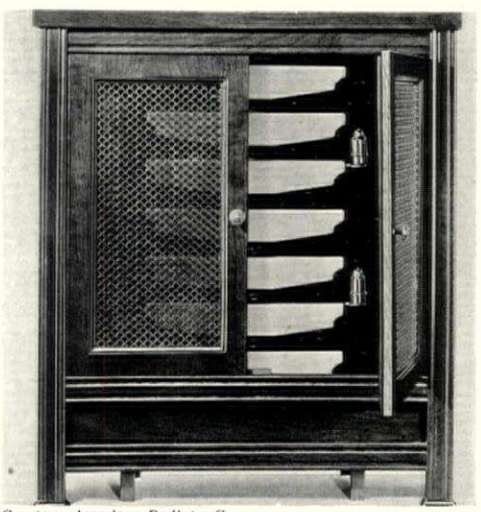
Courtesy, Campbell Metal Window Co.

Unit air conditioner which contains silencer as well as filter and fan; can be connected for both heating and cooling



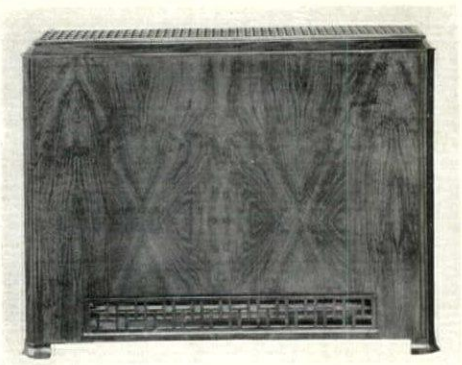
National Radiator Corp.

Cast iron concealed heating unit, which heats by convection and is adapted to use with steam, hot water or vapor system

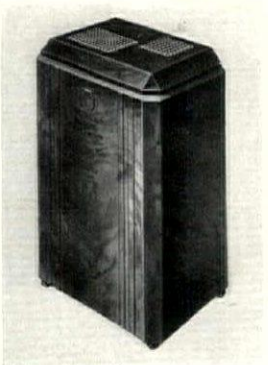


Courtesy, American Radiator Co.

Heating and humidifying unit which may be installed free standing or recessed, equipped with heat and humidity controls



Courtesy, B. F. Sturtevant Co.



Chicago Pump Corp.



Frigidaire Corp.

Three types of room coolers, the central one being the portable type. Each one contains a fan, motor, circulating pump assembly and dry extended surface cooling coil. The central one can be used as a humidifier in winter, whereas the others may be connected to heating lines for both heating and humidifying. There is a wide range in the types of unit coolers, some of which cost only $100. In cooling, dehumidification is accomplished by cooling the air to such a point that the moisture is condensed out

The surface can be used for heating if connected to the boiler.

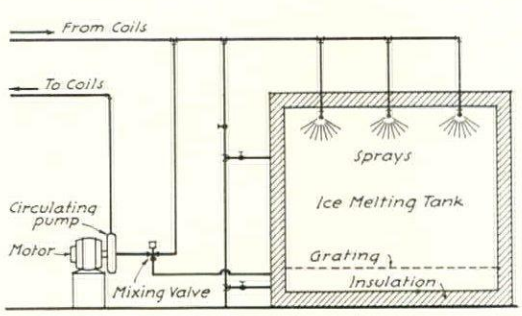
For use with the humidifying radiator, indirect conditioner or the warm air type conditioner, the mechanical compressor is available in individual units.

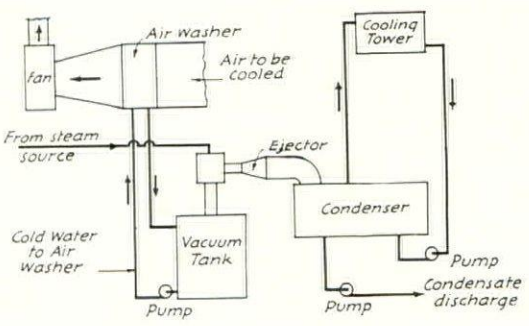
Costs. Costs have not been standardized, and almost every air conditioning installation is more or less custom built. Therefore cost information is lacking. In the case of cooling and humidifying, there is no unit on which costs can be based, such as the square foot of steam or water radiation in heating estimates. Portable humidifiers are obtainable from a few dollars up, but the ones with sufficient capacity will cost more nearly a hundred dollars. The humidifier added to the furnace may cost from twenty dollars up additional. A small complete warm air system of the conditioner type can be had for as little as four hundred dollars, not including the oil or gas burner.

Modern reliable units, which include humidifying and cleaning, and an oil or gas burner cost from about seven hundred dollars and up, depending on the size and quality. Efficient window filters cost approximately a hundred dollars, and up. A fan added to the straight warm air furnace will cost from fifty dollars up, the better units costing more. Humidifying radiators cost not less than a hundred dollars, and most rooms will require sizes which cost much more. Room coolers of the mechanical type run from five hundred to nearly a thousand dollars, depending on size and the completeness of the range of functions performed.

Prices can hardly be brought down until production is in the quantity stage, and under present conditions this is difficult.

Air conditioning, to be correctly done, is not simple. Many so-called "air conditioners" are being rushed to the market and the architect will be wise to consider the manufacturer's standing and the actual performance of the apparatus. Particularly where cooling is involved, the calculations and design are intricate and require special study. When cold air is being brought into the room, the problem is still more involved than with the warmer air, and experienced engineers are necessary to lay out the system, particularly the distribution.





Schematic diagram of central cooling system, left, using ice as the refrigerant. The cooled water is piped to the coils over which the circulated air is blown. Right, general arrangement of a steam ejector cooling system

TRENDS IN LIGHTING

AND ELECTRICAL EQUIPMENT

In commercial building work the lesson of the importance of artificial illumination has been learned. Architects and illuminating engineers are agreed that light is an important architectural element — to be considered as an integral part of the design rather than as a supplementary means of decoration.

The same scientific attitude toward residential lighting is not nearly so apparent. And yet the importance of light in the final result is just as great, and it must be given proper consideration if the concept is to be developed to its fullest. Selecting fixtures after the building has been completed is haphazard and unprofessional. If each room in a residence is to reflect the character intended by the architect, the latter must exercise a strict supervision over the elements in the illuminating scheme from beginning to end, including free standing floor and table lamps, as well as ceiling fixtures, wall brackets and built-in units.

The preparation of a lighting schedule for the various rooms in a country house calls for a procedure similar to the following outline, preferably in collaboration with a designer in illumination.

Statement of the purpose of the room and the activities to be carried on within it.

Statement of decorative treatment (ceiling, light or dark, etc.; walls paneled, painted, etc.; floor treatment).

Consideration of these in relation to their effect on illumination.

Discuss and decide, tentatively at least, upon the type of lighting best suited to the purpose. (Built-in units, wall units, free standing units.)

Discuss and devise housing.

Discuss and consider cost.

Discuss possible simplification of program to reduce cost if necessary.

The trend in fixture design is toward increased illumination efficiency, reduction of glare from the light source, abandonment of candle and gas lamp forms, and increased use of tubular bulbs. Bronze and the white metals are still the recognized fixture materials; the use of special diffusing glasses is increasing; and there is increased use of simple, built-in glass panels.

One of the most interesting of the new developments is the dual-purpose fixture offering ultra-violet light as well as general illumination. The type of bulb used in these fixtures is one containing a mercury vapor arc that gives off ultra-violet rays. A special filter glass in the bulb cuts out the harmful radiation so that the lamps may be used continuously. In this type of fixture, as illustrated on page 242, a special transformer is used to operate the ultra-violet bulb. This is usually concealed in the canopy, or in some other way introduced into the fixture. For use in the bathroom or nursery a special sun lamp may be installed, one that does not have the quality of illumination.

For the various rooms in the house, the following trends are in evidence:

Kitchen. Panels built-in to the ceilings over the work spaces are now being recommended. (See page 243.)

Bathroom. Special shaving lamp, consisting of illuminated band encircling the shaving mirror. (See page 243.)

Living Room. Trend toward localized lighting, with ceiling fixture omitted possibly, and generous use of floor and table lamps.

Dining Room. Elimination of ceiling fixture or wall brackets, the light from which might shine in the eyes of diners. There is a general preference for cove lighting or for a ceiling drop panel.

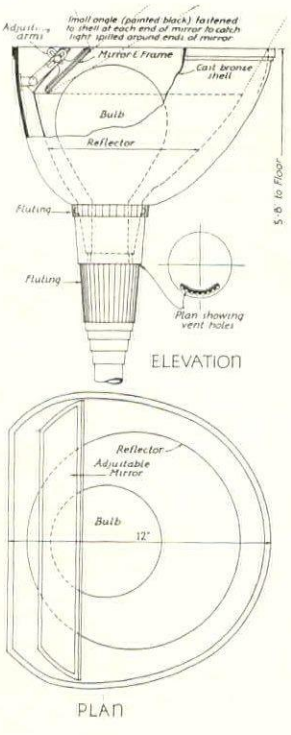
Bedrooms. Local illumination, possibly built-in units or other type of wall brackets at head of bed for night reading.

Garden Lighting. Growing interest in garden illumination, with spotlights and other floodlighting devices either concealed in shrubs or attached to house.*

*See *Garden Lighting*, by A. L. Powell and Lillian Eddy, published by General Electric Company.



Richard Averill Smith



Details of new type efficiency floor lamp



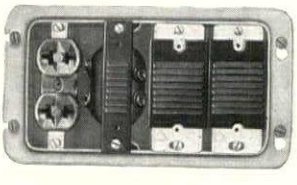
Courtesy, Müller Co.

Above, new lighting fixture using mirror to distribute light from reflector by means of auxiliary mirror, as shown in diagram. Developed by Frank M. Kirby, engineer. Patent applied for

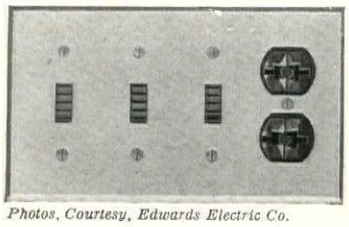
Left, dual purpose unit, with one central direct sun lamp and four lighting bulbs in circular reflector

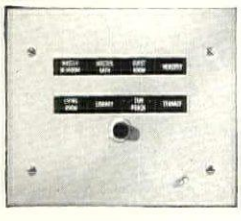
PROTECTION LIGHTING. Outlets under the eaves at the outside corners of the house to flood grounds at night, with switch control from the owner's bedroom and from convenient place on first floor. For interior lighting at night, "burglar switch" in owner's bedroom should turn on one or more lights in any or all rooms and halls, independently of switches normally controlling the outlets.

Apart from the actual lighting, there are other advances in residence electrical equipment. The fuseless circuit, for which a small type of circuit breaker has been developed, is one of the important developments. The unit consists of a combined switch and circuit breaker that has a trip mechanism which opens when the current on the circuit exceeds



Left and left below, photos of flush type signaling device showing units used for registering differently toned calls. Below, annunciator panel for flush installation in kitchen and servants' quarters



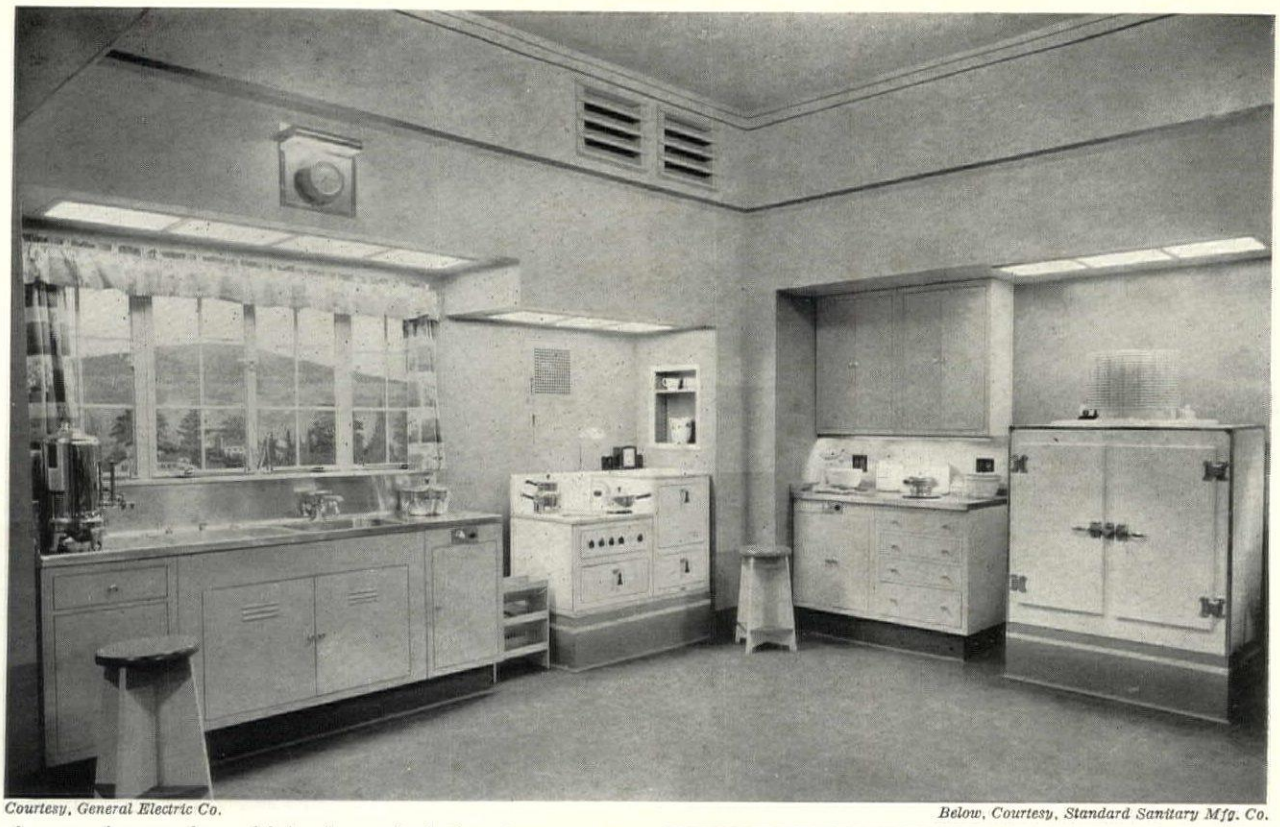


Photos, Courtesy, Edwards Electric Co.

Right, dial unit used in remote control radio and electrical transcription system. Similar units are installed in various rooms throughout the house



Courtesy, RCA-Victor



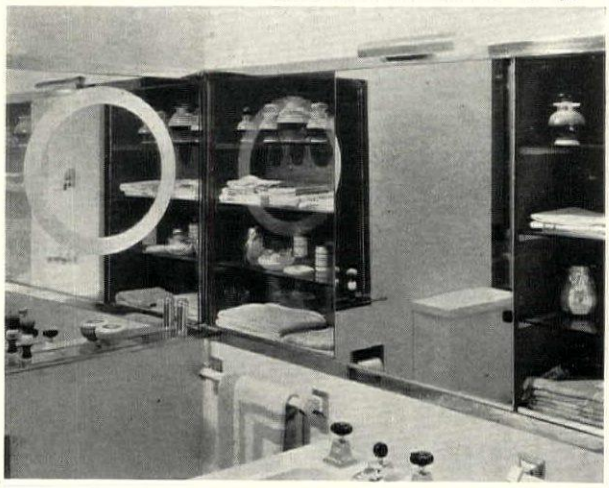
Courtesy, General Electric Co.

the maximum for which the switch has been set. The circuit is closed again by simply throwing the switch, thereby eliminating the expense or annoyance of installing new fuses. A group of these small circuit breakers, mounted on a single panel, is installed in the kitchen, since that is the natural load center of the house. The panel is installed flush with the wall, as may be seen in the illustration on page 244.

Another interesting development in residence electrical installation is the perfection of a remote control radio and electrical transcription system. Through a selector unit, composed of a telephone dial in an ornamental box, one radio serves all the rooms in the house in which loud-speakers are desired. The dials are connected to a basic cabinet which may be located in a storage room, closet, or in the basement. The cabinet contains the relays, radio receiver, power amplifier and motor-driven volume controls for the various projector outlets.

For country houses, a sound motion picture installation, with concealed screen and port-holes, may be desirable. For such installations the electrical equipment required for the projection room is of such proportions that adequate space will have

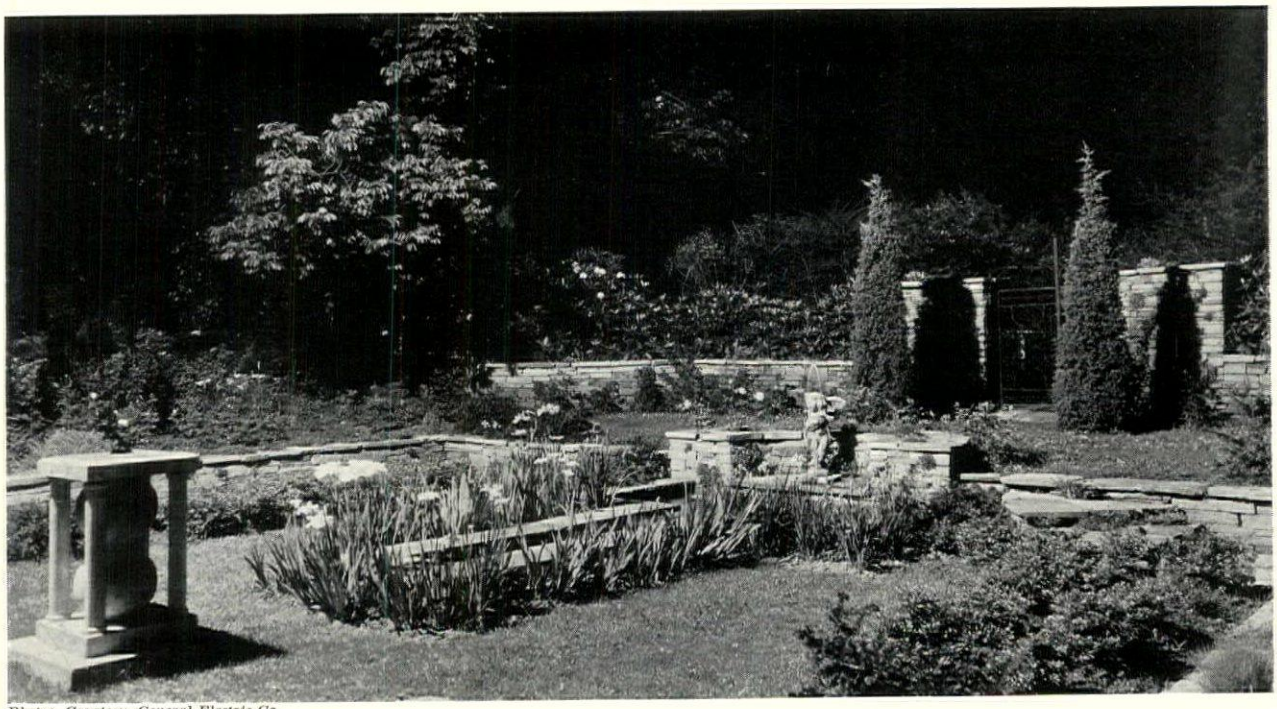
Below, Courtesy, Standard Sanitary Mfg. Co.





Bonney

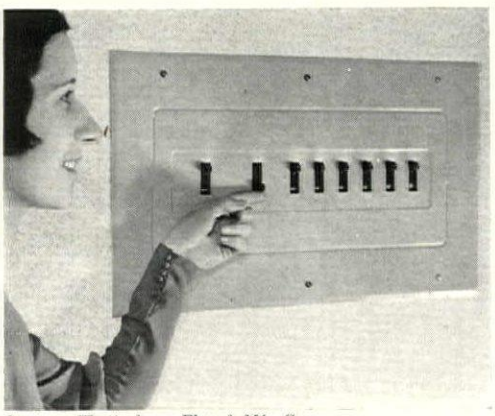
New developments in kitchen, bathroom and bedroom lighting. Top, flush panels in false ceiling over kitchen work centers. Right center, band of light encircling shaving mirror. Right, overhead cove for bedroom lighting



Photos, Courtesy, General Electric Co.



Typical garden floodlighting, above; at left, the lighting unit under the eaves which supplied the illumination



Typical load center panel in new system of fuseless wiring. This panel is usually located in the kitchen

Courtesy, Westinghouse Elec. & Mfg. Co.

to be provided in the early stages of planning.*

Signaling and communication systems for residences have undergone recent improvements, one of which is the development of flush signals to replace the old bells and buzzers. (See page 242.) The entrance signals for front and rear doors should be of the audible type, with different sounds for the different doors. The receiving unit is placed in the kitchen, with extension signals to the servants' quarters. A soft toned bell or quiet buzzer should be used for the dining room to kitchen call, and incorporated into the panel which conceals the other bell signals.

Service signaling should include adequate calling stations from living room, library, den, bedrooms, bathrooms, etc., to an annunciator in the kitchen and an extension annunciator in the servants' quarters. A simple telephone system may prove more adaptable, with stations located in the garage, green house, or other buildings away from the main house.

The kitchen range, oil burner, stoker, or central air conditioning systems are supplied by circuits to which no other apparatus is connected. The water heater, the laundry hot plate, bathroom built-in heater, fireplace heater, etc., may be grouped on several heavy duty appliance branch circuits. Since the capacity of each circuit depends upon the appliances used, it is advisable for the architect to know as definitely as possible just what appliances will be used so wiring changes may be eliminated.

Because most residences are on power lines that are subject to disturbance from storms, an emergency lighting system is an essential element in country house equipment. Although automatic control is an added convenience, a system with hand switch control is entirely satisfactory.

*See "Sound Motion Picture Requirements," by Harry B. Braun, THE ARCHITECTURAL FORUM, October, 1932, pages 381–385.



Courtesy, International Nickel Co.

The continuous work area on two sides, the electric dishwashing unit built in the sink, the cupboards above and below the convenient working surface, and the stainless metal sink and shelves are features of this efficiently planned kitchen

THE COUNTRY HOUSE KITCHEN

THE kitchen has been the subject of more efficiency studies than any other unit of space in the residence. Its size, location and arrangement have been standardized many times, not always with the same results, but with results approximating each other closely enough so that guesswork can be eliminated from planning. To supplement the data on kitchens appearing on pages 202 and 203 of this issue, these additional notes have been prepared from the findings of the Committee on Kitchens and Work Centers that reported to the President's Conference on Home Building and Home Ownership.

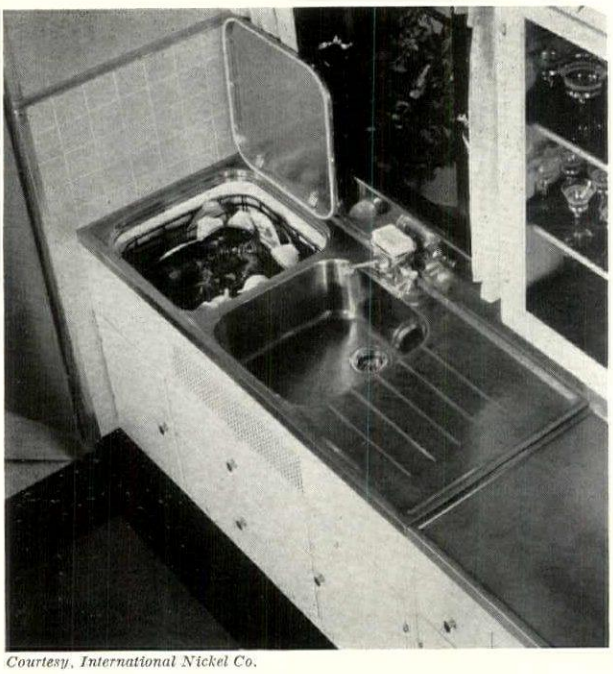
Location. Preferably facing east, convenient to laundry and furnace room, to entrance doors, second floor stairs, to telephone, and to toilet.

Size. Maximum width 7 ft.; length varies from 8 to 12 ft. Pantries vary in area from 38 sq. ft. to 54 sq. ft.

Shape. The rectangular kitchen is better adapted to the routine of kitchen activities, "preparation" and "restoration."

Arrangement. The disposition of units should follow as nearly as possible the sequence of activities common to most food preparation, from right to left or from left to right, ending with the completed food ready for serving at the dining room door. In restoration the work sequence is from right to left. The most common activities in the kitchen call for the following sequence in units, refrigerator, storage, work-space, counter, sink, range, serving table.

Ranges. There is a marked tendency toward elec-



Courtesy, International Nickel Co.

A combination sink and electric dishwashing unit for the pantry, with a working surface of an insulated stainless metal

tric ranges. Three burners are usually sufficient, although most ranges have four. Of the three types, (1) oven below, burners above; (2) ovens and burners on same level; (3) burners with oven above burner area, the second type is usually most efficient and convenient, although it occupies the greatest floor area. The size of the range seldom need exceed 24 x 48 in.

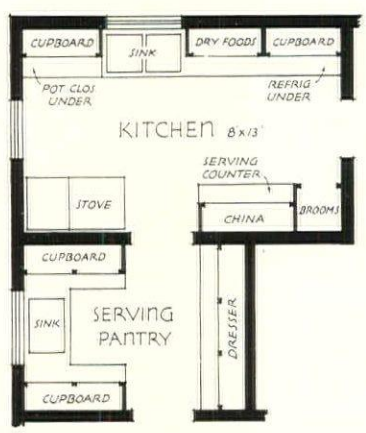
Refrigerator. Maximum domestic size of the brand selected is usually advisable for the large country house. Consideration should be given to one unit for kitchen, another for pantry.

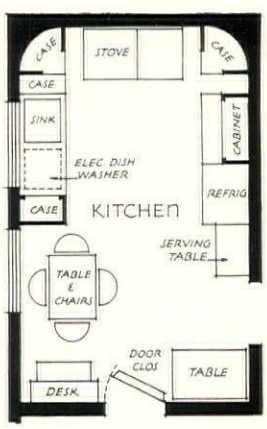
Sink. New units with built-in dishwashers have further advantage of supplying additional work surface when cover of washer is down. Sinks without washers should have double drainboards if space permits; recommended height either between 35 to 37 in. (to permit sitting at work) or the now common height of 28 to 29 in.

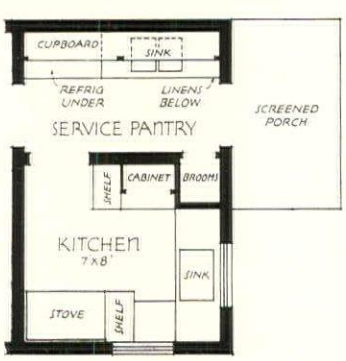
Cabinets. Attempts to standardize units are meeting with success. Since the usable space lies between 1 and 6 ft. from the floor, the kitchen cabinet should concentrate its facilities in that space. The height of the work shelf and all kitchen work surfaces may vary from 32 to 35 in. from the floor, 34 in. being the height agreed upon by the greatest number of home economics experts. Narrow cabinet doors, or even sliding doors, are preferable to the wide type.

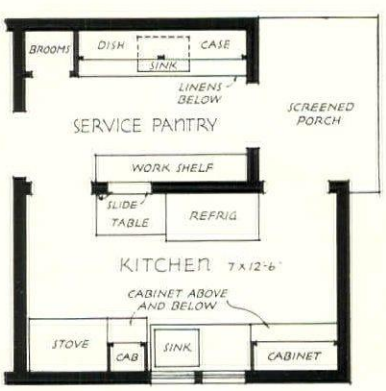
Broom Closet. The recommended dimensions for broom closets are 30 x 8 in. x 6 ft. 6 in. It is better

Four large kitchen plans, worked out to produce time- and step-saving by a logical arrangement of the various working units









The lower plans were developed by home economics experts for country houses where one maid is employed

The upper plans are for medium size country residences, one with a serving pantry and the other without

to have the smallest dimension as the depth.

Doors. Minimum number, 28 to 30 in. wide (except for the door leading into the dining room which must be 36 in.). Door swings, including cabinet and refrigerator door swings, should be studied carefully with reference to interference with each other, source of light, and interference with free area of worker.

Walls. Good reflectivity of light and imperviousness to moisture are the principal requisites of kitchen wall coverings, which admit the following possibilities: hard-finish plaster, painted or papered with waterproof paper or the washable type wall coverings; tile or accepted composition materials; linoleum or one of the high quality plastic products.

Floors. Primary requisites are imperviousness to moisture, durability, resiliency, ease with which material may be cleaned with soap and water. The following are possibilities: linoleum, desirable also because it has few joints; mastic floors, rubber floors, and the various accepted compositions, each considered in the light of its conformity to the established requisites.

Ventilation. Cross-ventilation is desirable; exhaust fan is recommended for kitchen odors and to improve circulation. Gas stoves should be vented by a flue to the chimney or the outer air. Obviously, complete air conditioning is preferable to all other methods of ventilation.

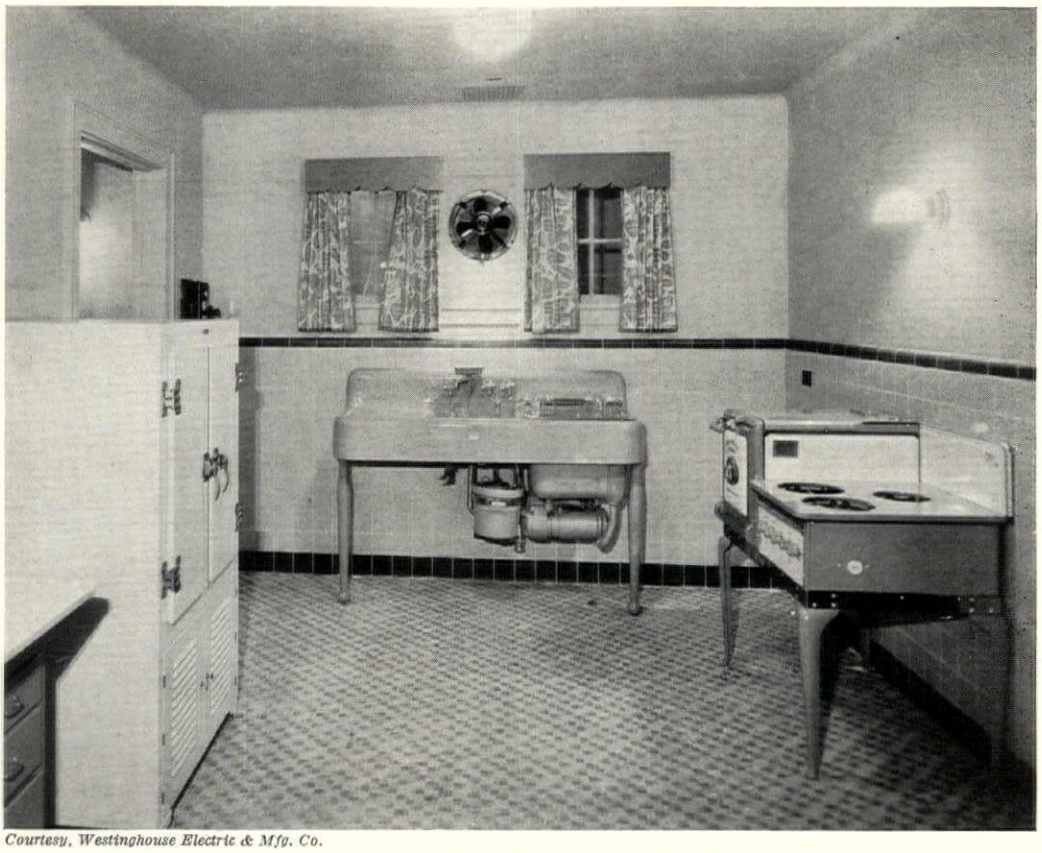
Electrical Equipment. The all-electric kitchen is



Courtesy, G. E. Kitchen Institute

Compact kitchen for week-end house or for country house with limited maid service. Note continuous work surface on three sides

Model kitchen, laid out to show disposition of work units, light fixtures, telephone, fan, before installation of working surfaces



Courtesy, Westinghouse Electric & Mfg. Co.

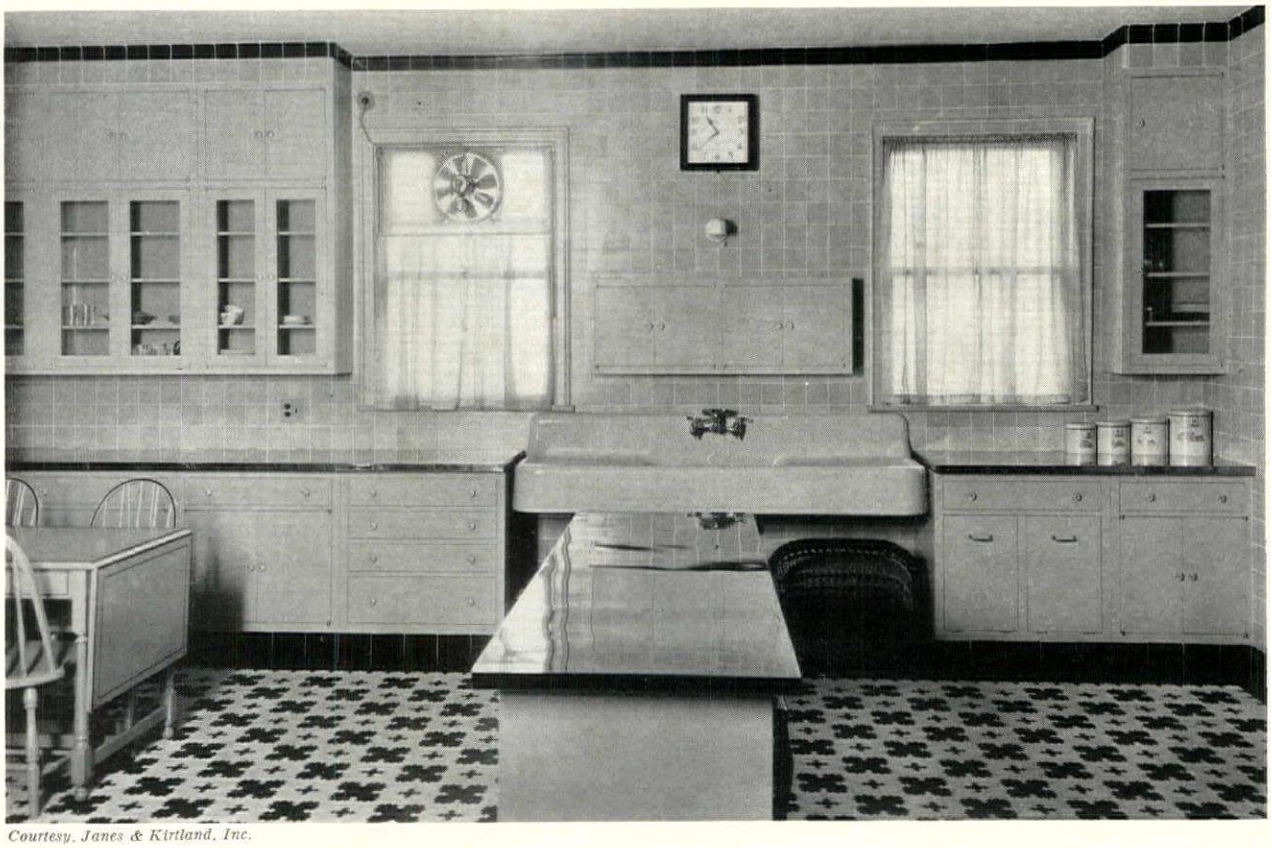




Courtesy, G. E. Kitchen Institute

Replacing the worn sink, left, the stainless metal sink with built-in dishwasher is one of the evidences of good practice in the remodeled kitchen, right. Others are the ample cabinets and recessed lighting

gaining in favor. Although an electric range, dishwasher, refrigerator, fan, clock, plate warmer, etc., add to the current charges, it is hoped by the manufacturers that the increased use of such equipment will lead to a general reduction in rates. The kitchen has become the natural electric load center, and is therefore the logical place for the fuse box or for the fuseless load center, such as is shown on page 244. Artificial lighting for the kitchen should be of an intensity ranging from 12 to 20 foot-candles.



Courtesy, Janes & Kirtland, Inc.

Large remodeled kitchen, noteworthy for good natural lighting and arrangement of tables, shelves and cabinets

SANITATION
OF THE COUNTRY HOUSE

A SUMMARY OF TRENDS
AND RECENT DEVELOPMENTS

An early vogue in bathroom decoration was for glistening, all-white tile, clinic-like and bare. Then came colored wares of every hue and an indiscriminate assortment of ornamental patterns. Now white again, because of its definitely sanitary appearance, is much in demand as the dominant decorative color. The "clinic effect" is relieved by introducing into the decoration of the room ornamental motifs, integral with the architecture, and colors definitely appropriate to place and use.

All the individual items of sanitary equipment have undergone marked changes in the past few years with the perfecting of new processes and materials and, perhaps still more, with the creation of new designs. Innovations and changes alike point to greater simplicity of installation, simplicity of design in fixtures, with accompanying increased efficiency in operation and ease of maintenance.

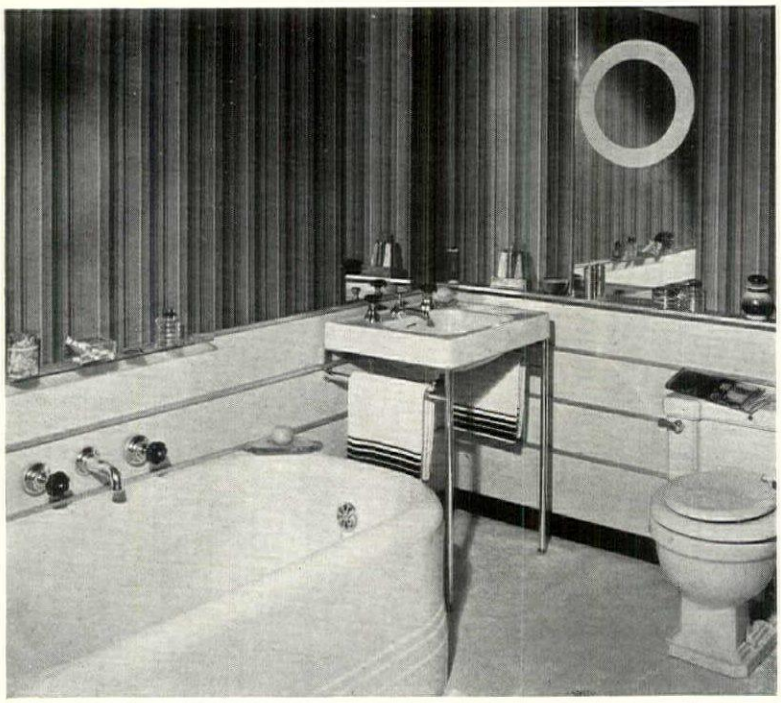
Water Supply. The country house because of its more or less isolated location often presents some special problem of sanitation in the matter of supply and drainage. Water may be supplied by town mains at low pressure and raised to house storage tank by booster pump, or it may originate in some private source, such as a stream, lake or well, and be raised to pressure by a hydraulic ram, shallow or deep well electrically operated centrifugal pump, hot air engine, compressed air lift, or windmill. On estates of any considerable extent the tank system should comprise a main supply tank at wellhead level, pressure tank in attic or underground pneumatic, and reserve tank under pressure for fire protection. Allow 40 gallons per person per day for all household purposes. Filters, water-softening devices, rain water cisterns may be necessary.

Piping. Install roughing with a view to noiseless service in all mains and branches through shock absorbers, vibration diaphrams on dead ends, separation of pipes from structural members of house. Material for supply pipes, though varying with uses, should be determined largely by the analysis of the water. This, and the question of first cost vs. ultimate cost, will indicate whether the house should be piped with wrought iron, steel, copper-bearing steel, copper or brass. Salt water in a seaside house will require a separate supply system. Copper tubing, because readily bent and joined at any angle by the new method of "sweating," is especially adapted to remodeling. The exposed pipes on fixtures are now generally of a standardized stainless and heat-resisting chromium nickel alloy.

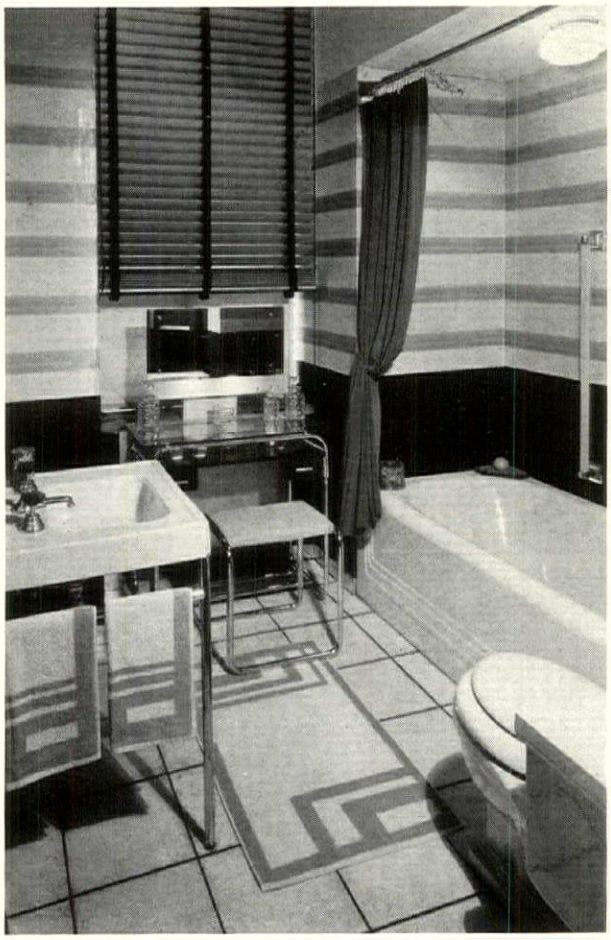
Dressing rooms and bathrooms most favorably located on eastern and southern exposures. Walls finished in vitrified tile, linoleum tile, laminated phenolic-resin, marble, structural glass. Prime consideration, steam and moistureproof quality. Floors of ceramic tile, linoleum, rubber or cork in tile or sheets.

Fixtures. Selected for harmony of design, these may be of vitreous china, acid-resisting vitrified enameled iron. One-piece water closet with integral tank requires only two plumbing connections. Scientifically designed hygienic seat affords correct posture. New lavatories have larger bowls and more slab space for articles, raised above rim of bowl. Lavatory trap designed as integral part of fixture eliminates unsightly pipes and brackets underneath, facilitating floor cleaning.

A new mixer faucet with rotating handle supplies lavatory with running water at any desired temperature. Similar device for shower and bidet includes non-scalding mixing valve. Faucets on all fixtures, by being raised or tilted up above rims, prevent back siphonage. Showers installed either over tub or in independent unit compartments. Simplest tub shower installation has riser pipe fitted directly onto tub spout, automatic diverter valve limiting flow of water to one fixture at a time. Unit showers completely prefabricated in various finishes may be installed in space about 3 ft. square, 7 ft. high:







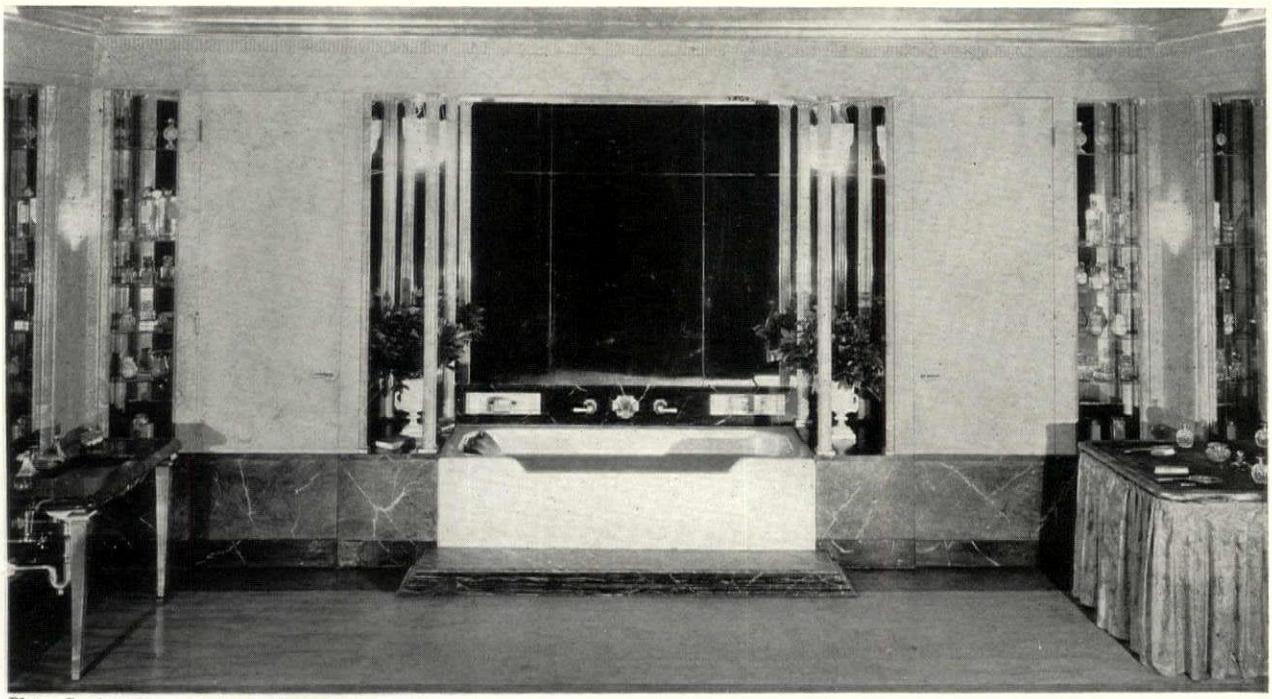
Lady's bath-dressing room. Rubber tile floor, black linoleum wainscot, walls lettuce green and white stripes in spun glass, ultramarine shower curtain. Make-up light under mirror

Bathrooms for the small country house. Above, left, man's room in white and tan. Floor and wainscot sheet linoleum, black bakelite baseboard. Simplified tubular lavatory; circular shaving light in vertical mirror. Shower compartment opens off room. Above, right, tubular lavatory, chromium-plated, with extra-large bowl and easy grip handles; two integral towel bars

serviceable in remodeling or extending bathroom facilities throughout the house.

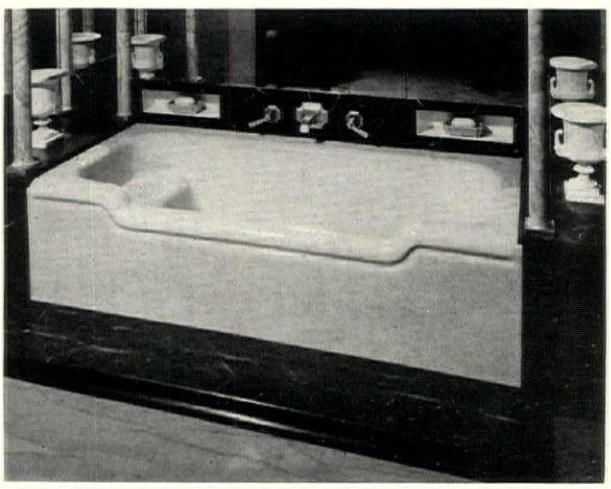
Newly designed small showerhead, consisting of grooves around edge of face, produces two circular streams with same spread at 6 ft. as ordinary showerhead, but uses less water. Adjustable showerhead supplies fine or coarse spray and can be readily cleaned. Built-in tub, preferably in alcove to allow more space in bathroom. Completely free-standing tub for luxurious baths. A tub has been designed with a seat built, as an integral part, into one end. Sunken or small pool tub. Safety handrail at side of tub, to be grasped at any position.

Accessories. Built-in medicine cabinet above lavatory with shaving lights on either side of mirror or completely around it. Lady's dressing table to



Photos, Courtesy, Bureau Design Development, George Sakier, Director Standard Sanitary Corp.

Typical luxurious bathroom for large country house. Tub 7 ft. long, set in mirrored alcove, doors on either side leading to shower and water closet compartments. Floor and wainscot in two-toned reddish marble, light tan marbleized linoleum walls; ceiling turquoise blue. Gold plated fittings on all fixtures. Right, detail of tub above, showing built-in seat at one end



match lavatory, but with triptych mirror and individual lighting near table level. Dental basin with mixing valve for varied water temperature may be installed in space about 1 ft. square. Built-in weighing scale. Full length mirror. Exercise apparatus and couch for rubbing or resting. Therapeutic sun lamp. Air dryers. In a country house of ample design the master bathroom might be suitably adjoined by a small gymnasium or an open air sun deck. Dressing cabinets separated from bathrooms by moistureproof partition and door.

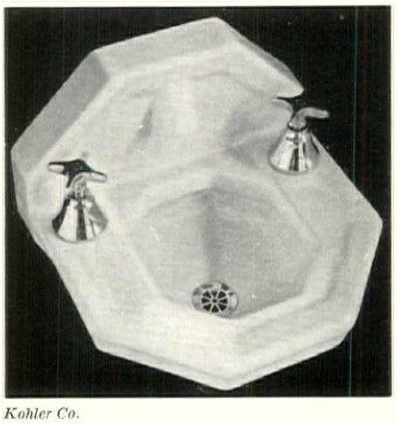
Swimming Pool Unit. This will require special water supply for recirculation. Reinforced concrete construction lined with encaustic tile over a waterproofing membrane; special frost and ground waterproofing for outdoor pool. Filtration and sterilization equipment. Toilet, lavatories, dressing rooms adjacent.

Domestic Hot Water. Automatic water heating thermostatically controlled; various fuels depending on available supply. Closed-circuit system of recirculating pipes conserves and maintains constant hot water supply.

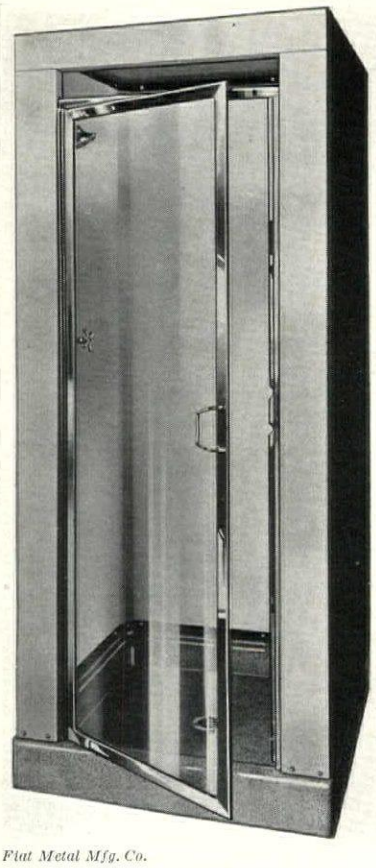
Waste and Drainage. Diameter of waste lines may be prescribed by code. Extra large trap and deeper water seal in design of new water closet allow passage of larger non-soluble wastes. Air lock at water seal of main house trap, caused by stoppage of heavy bodies of waste, eliminated by adequate venting. Other possibilities of pipe clogging may be avoided by choice of material of pipe, non-porous,



Trenton Potteries Co.



Kohler Co.



Flat Metal Mfg. Co.

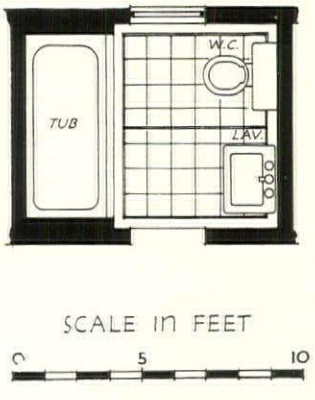


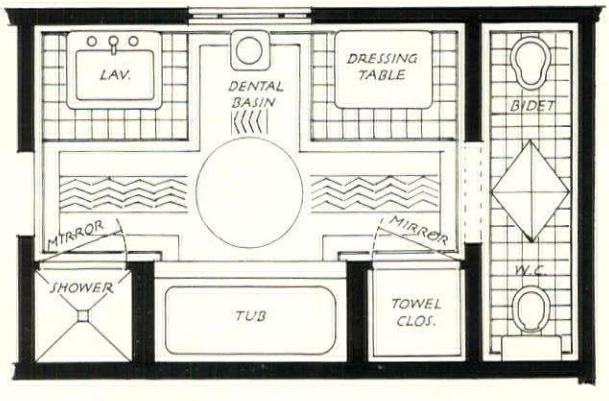
Standard Sanitary Corp.



Trenton Potteries Co.

Left, top. Large bowl lavatory with raised shelf and faucet, integral trap; below, dental basin with raised enameled spout, varying water temperature. Right, top. Lavatory fittings in chromium-plated brass, low escutcheons, vitreous china handles; below, hygienic water closet with specially designed seat and extra large trapway. Center, unit shower compartment, precast terrazzo base, walls metal or enameled. Below, typical plans for large and small country house bathrooms





proof against corrosion and acids; if of earthenware, outside sewer pipe should be hard and fire-glazed, perfectly water smooth and non-porous. If the country house is in a small community that has no sewer system or is altogether removed from other dwellings, a septic tank should be installed with capacity of 100 gallons per person per day. This is frequently constructed of watertight reinforced concrete, with compartments arranged in series for the reduction of sewage to a practically harmless state.

Final drain-off through common unglazed drain tile pipes, laid just below surface of ground, to make use of aerobic bacteria. If soil is non-porous, the resultant liquid should first be oxidized and made free of organic matter, and for this purpose a special system of tanks with filters instead of ordinary baffle plates should be used. Electric sump pumps and cellar drainers, or automatic sewer ejectors, required in the absence of local sewer system or to supplement it in draining underground areas.

THE

ARCHITECTURAL

FORUM

VOLUME LIX SEPTEMBER, 1933 NUMBER THREE

PUBLIC WORKS IN THE NEW DEAL

BY HAROLD L. ICKES

Secretary of Interior, Administrator of Public Works

OUR business is to put men to work, to do it quickly, and to do it intelligently. We must take men off relief rolls and put them on pay rolls. The inadequacy of "made work" just to keep the unemployed busy is obvious. The New Deal calls for the reemployment of men at their old trades on construction projects that are necessary for the public good. The Administration of Public Works is allotting over three billion dollars for the undertaking of such projects through loans and grants. To date $1,212,-864,697 have been allotted for various types of projects.

Since speed of employment is the prime consideration, most of this money has been assigned to water works, highways, various government departments, ship building, etc. These projects were selected first because they could be started with the least loss of time. Now more plans for buildings are reaching the stage where they can be judged, approved and construction started.

On August 17 $28,119,145 had been allotted to building projects (Federal buildings and low-cost housing). As fast as building projects can be examined as to their need and soundness they will be passed upon by the Special Board, the money allotted and men put to work. Each project must necessarily be judged on its own merits. The architects, engineers and contractors of the country can do their part by bringing the needed construction projects to their State Engineers' attention, or in the case of housing to the Housing Director at Washington, promptly and in the form prescribed in the published circulars. With such cooperation the administration can function quickly in putting the building industry back to work.

The Administration realizes that dollars spent for needed buildings have a more widespread economic effect than money spent on many other types of projects. Therefore in administering the public works sections relating to buildings we are mindful of the broad provisions of the Act and their bearing on the economic status and purchasing power of the millions who are dependent directly and indirectly on construction for their livelihood.

THE GIST OF THE ACT

An Act to encourage national industrial recovery, to foster fair competition, and to provide for the construction of certain useful public works, and for other purposes.

THERE are two parts of the National Industrial Recovery Act, viz., Title I, Industrial Recovery, Title II, Public Works and Construction Projects. The well-publicized first section deals with codes, competition, wages and hours; the second deals with planning, construction, loans and grants. The Act should be read carefully by every architect, engineer, city planner, contractor and building money man. The second part especially affects every man in the building industry directly. In brief this Public Works portion of the Act is as follows:

Sec. 201. Establishes a Federal Emergency Administration of Public Works, empowers the "Administrator" to establish the agencies and to make appointments; to utilize existing agencies; to fix compensation. Permits the Administrator to appoint experts, without regard to civil service laws; to make expenditures out of the funds of the Act to carry out its provision. Limits the life of the Act to two years (until June 16, 1935).

Sec. 202. Establishes as eligible for funds *all* types of construction and building which serve the interests of the general public.

"The Administrator, under the direction of the President, shall prepare a comprehensive program of public works, which shall include among other things the following: (a) Construction, repair, and improvement of public highways and park ways, public buildings, and any publicly owned instrumentalities and facilities; (b) conservation and development of natural resources, including control, utilization, and purification of waters, prevention of soil or coastal erosion, development of water power, transmission of electrical energy, and construction of river and harbor improvements and flood control. . . . (c) any projects of the character heretofore constructed or carried on either directly by public authority or with public aid to serve the interests of the general public; (d) construction, reconstruction, alteration, or repair under public regulation or control of low-cost housing and slum clearance projects; (e) any project (other than those included in the foregoing classes) of any character heretofore eligible for loans under subsection (a) of section 201 of the Emergency Relief and Construction Act of 1932, as amended, and paragraph (3) of such subsection (a) shall for such purposes be held to include loans for the construction or completion of hospitals the operation of which is partly financed from public funds, and of reservoirs and pumping plants and for the construction of dry docks. . . .

"Sec. 203. (a) With a view to increasing employment quickly (while reasonably securing any loans made by the United States) the President is authorized and empowered, through the Administrator or through such other agencies as he may designate or create, (1) to construct, finance, or aid in the construction or financing of any public works project included in the program prepared pursuant to section 202; (2) upon such terms as the President shall prescribe, to make grants to States, municipalities, or other public bodies for the construction, repair, or improvement of any such project, but no such grant shall be in excess of 30 per centum of the cost of the labor and materials employed upon such project; (3) to acquire by purchase, or to exercise of the power of eminent domain, any real or personal property in connection with the construction of any such project, and to sell any security acquired or any property so constructed or acquired or to lease any such property with or without the privilege of purchase. . . ." (b) Provides for expenditures for travel and personal service. (c) Allows acquisition of sites for Federal public buildings. (d) Extends the benefits of the Act to "any State, county or municipality notwithstanding any . . . legal restriction or limitation on" its "right or power to borrow money or incur indebtedness."

Sec. 204 and Sec. 205 provide for emergency construction of highways and related projects.

Sec. 206. Insures that on construction projects, (1) No convict labor, (2) thirty-hour week for labor, (3) wages to "provide . . . a standard of living in decency and comfort," (4) establishes preference to ex-service men with dependents.

Sec. 207. Provides "a means of financial assistance to persons under contract . . . to perform such construction, to approve any assignment executed by such a contractor, with the written consent of the surety. . . ."

(b) "Funds received by the contractor under advances . . . declared to be trust funds . . . to be applied first to payments of claims of subcontractors, architects, engineers, surveyors, laborers and material men . . ."

Sec. 208 (Subsistence homesteads). "To provide for aiding the redistribution of the overbalance of population in industrial centers $25,000,000 . . . for making loans for and otherwise aiding in the purchase of subsistence homesteads.

Sec. 209–219 deal with Rules and Regulations, Issue of Securities and Sinking Fund, and in detail with Employment and Relief Taxes.

Sec. 220. Appropriation of $3,300,000,000.

Sec. 301 stops R.F.C. approvals except as to commitments already made.

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Secretary of Labor

LEWIS DOUGLAS
Director of the Budget

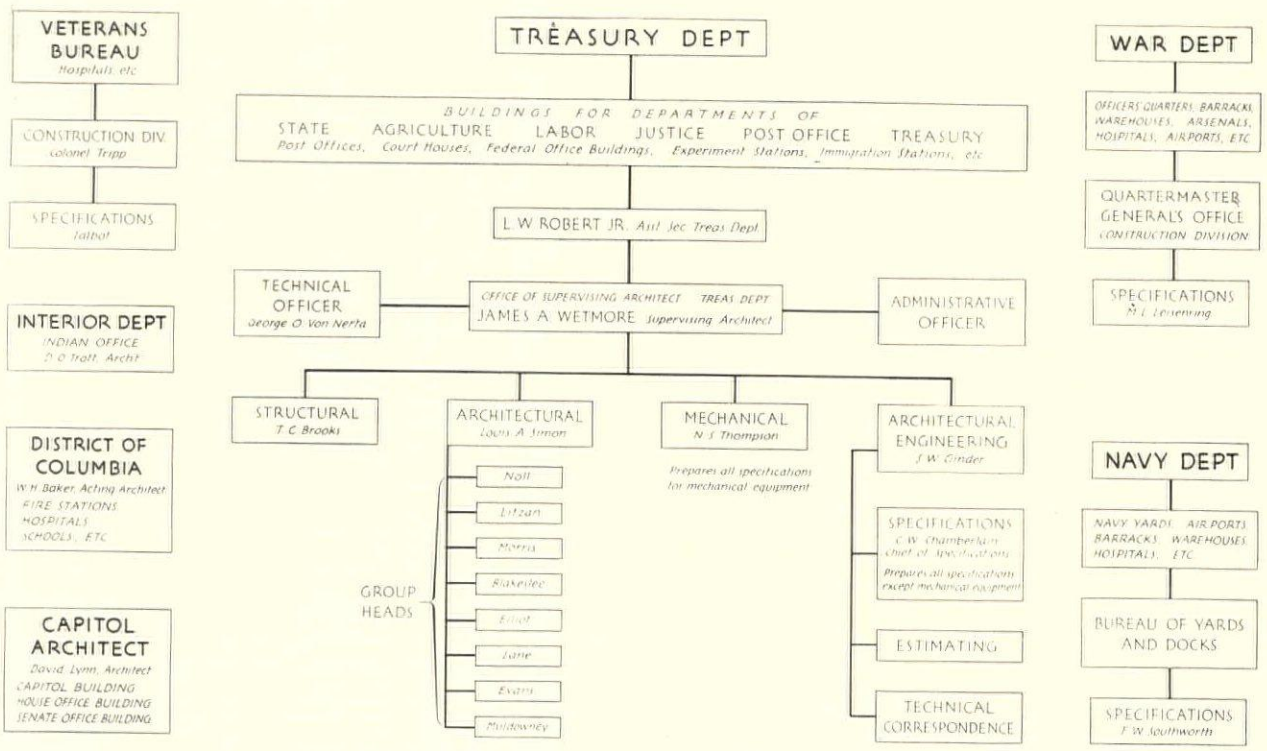
LAWRENCE W. ROBERT, JR.
Assistant Secretary of the Treasury

COL. HENRY M. WAITE
Deputy Administrator of Public Works

At the top of the pyramided Public Works Administration sits the Special Board of Public Works, determining policies, analyzing proposed expenditures, and coordinating Federal and non-Federal projects. Composed of regular administration officials, with the exception of Deputy Administrator Waite, it laid down the rules under which the program is being carried forward. The board meets regularly to speak or withhold the final word of approval on outgoing millions.

FEDERAL BUILDING ORGANIZATION

Except for the fact that all expenditures for government department buildings are included in the Public Works program, the organization for their administration is the same as it has been in the past. As shown in the chart below, the Treasury Department supervises work for all departments excluding War, Navy and the Interior, Veterans Bureau, District of Columbia and Capitol and government office buildings.





PUBLIC WORKS ADMINISTRATOR
Harold L. Ickes

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COORDINATING OFFICER *Maj Philip B. Fleming*

ALL FEDERAL GOVERNMENT DEPARTMENTS
SUCH AS TREASURY, WAR, NAVY, ETC.

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LOANS TO PRIVATE CORPORATIONS ONLY
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Henry T. Hunt

FINANCIAL
Lewis Mansfield

NON-FEDERAL WORKS, LOANS TO MUNICIPALITIES, COUNTIES, STATES

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R.I. CONN. *Leslie A. Hoffman*		OHIO. *Wm. A. Stinchcomb*	IOWA. *P. Frank Hopkins*	ORE. *Claude C. Hockley*			MO. *Hugh Miller*	S.CAR. *J. L. M. Irby*	MD. *Abel Wolman*
		WISC. *Jas. L. Ferebee*	WYO. *E. C. Williams*				ARK. *Alexander Allaire*	FLA. *Jas. E. Cotton*	DEL. *Chas. H. Fleming*
									VA. *Jas. A. Anderson*
									N.CAR. *Herman G. Baity*

Name of State Engineer appears under each State.
In addition, each State has an Advisory Board of 3 Members



REGIONAL ADVISERS

REGION No. 1, BOSTON — (Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut) — George William Lane, Jr., Lewiston, Maine.

Son of one of Maine's leading contractors, Adviser Lane has, since he left high school 36 years ago, been associated with the bank of which he is now president, the Lewiston Trust Company. He is keenly interested in civic affairs, was once a State legislator. Mr. Lane owns a theater chain, and is treasurer of Bates College, a 32nd Degree Mason, an Elk, and a Democrat.

REGION No. 2, NEW YORK — (New York, New Jersey, Pennsylvania) — Edward J. Flynn, 641 Washington Street, New York.

As a politician, New York's Secretary of State is regarded almost as highly as his good friend, Postmaster Farley. A member of the law firm of Goldwater & Flynn, he rules the Bronx Democracy.

REGION No. 3, CHICAGO — (Illinois, Indiana, Michigan, Ohio, Wisconsin) — Charles M. Moderwell, 332 S. Michigan Ave., Chicago.

Prominent in Chicago's social and civic life, Adviser Moderwell has been in the coal business all his life, is now with the Chicago, Wilmington & Franklin Coal Co. He was at one time president of Chicago's Board of Education, and unlike most of his colleagues, is a Republican — a liberal one.

REGION No. 4, OMAHA — (North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Wyoming) — Frank W. Murphy, 402 Post Office Building, St. Paul, Minn.

As a lawyer and farm owner, Mr. Murphy has long been interested in guaranteed cost production as a farm relief measure. His appointment as Regional Adviser is partially traceable to his bolting Hoover to lead agricultural Roosevelt Republicans.

REGION No. 5, PORTLAND — (Montana, Idaho, Washington, Oregon) — Marshall Newton Dana, Oregon Journal, Portland.

Through his newspaper Mr. Dana has been a powerful Democratic voice in the West. He is president of the National Reclamation Association, and was an unsuccessful candidate for the Democratic Senatorial nomination last fall.

REGION No. 6, SAN FRANCISCO — (California, Nevada, Utah, Arizona) — Justus S. Wardell, Russ Building, San Francisco.

Al Smith had no stronger supporter, McAdoo no stronger opponent in California than Adviser Wardell. Following his defeat in the senatorial primary against McAdoo, he worked hard for Roosevelt. He was once a newspaper publisher.

REGION No. 7, FORT WORTH — (Texas, Louisiana, New Mexico) — Clifford B. Jones, Spur, Dickens Co., Texas.

For S. M. Swenson & Sons, Mr. Jones manages the half million acres of Spur farm lands in Texas. Born in Colorado, educated in Missouri, he ranks high in the politics, civics and business of Western Texas.

REGION No. 8, KANSAS CITY — (Missouri, Colorado, Kansas, Oklahoma, Arkansas) — Vincent M. Miles, Fort Smith, Ark.

One of Arkansas's most prominent Democrats, Adviser Miles has been a Committeeman for 17 years. He was defeated by Hattie Caraway in the contest for the senatorial seat of Mrs. Caraway's late husband.

REGION No. 9, ATLANTA — (Mississippi, Alabama, Georgia, South Carolina, Florida) — Henry T. McIntosh, Albany, Ga.

Adviser McIntosh entered the Public Works picture late, as the successor to Monroe Johnson. He is editor and publisher of the Albany *Journal*.

REGION No. 10, RICHMOND — (Tennessee, Kentucky, West Virginia, Maryland, Delaware, Virginia, North Carolina) — George L. Radcliffe, Fidelity & Deposit Co. of Maryland, Baltimore, Md.

Mr. Radcliffe is an able Baltimore banker after having been a successful teacher and lawyer. President Roosevelt was once a vice president of his bank. Mr. Radcliffe was Secretary of State (Md.) from 1919–21.









In this gallery of Public Workers, reading left to right and then down, are (on opposite page) Ickes, Waite, Fleming, Robert, Kohn; and (on this page) Advisers Lane, Flynn, Moderwell, Murphy, Dana, Wardell, Jones, Miles, Radcliffe. McIntosh is absent.

STATE ENGINEERS

ALABAMA

Armour C. Polk, Birmingham. Graduate in civil engineering of V. M. I., 1899, R. P. I., 1903. As executive of engineering and construction companies, has recently had charge of construction throughout southeastern United States.

ARIZONA

Howard S. Reed, Phoenix. Consulting civil engineer engaged in general practice in Arizona and New Mexico. Former City Engineer, Phoenix, Ariz.

ARKANSAS

Alexander Allaire, Washington, D. C. Graduate of Stevens Institute of Technology. Experienced in general construction over 20-year period.

CALIFORNIA

Frank E. Trask, 304 South Broadway, Los Angeles. Consulting engineer specializing in water works, irrigation, valuation and rate cases.

COLORADO

George M. Bull, 3910 Perry St., Denver. Graduate of Rensselaer Polytechnic Institute. Specialized in water supply and irrigation for past ten years. Has been Chief Engineer for Denver City Water Board.

CONNECTICUT

Leslie A. Hoffman, 19 P. O. Arcade, Bridgeport. Graduated from Massachusetts Institute of Technology, 1917. Recently engaged in conception and execution of industrial projects involving steel and mill construction and heavy foundations.

DELAWARE

Charles H. Fleming, Dover. Civil engineer, engaged in municipal water supply construction and operation.

FLORIDA

James E. Cotton, 327 N. E. 18th St., Miami. Graduated from Iowa State College in civil engineering. Has recently been engaged in construction of wharves, docks, municipal buildings.

GEORGIA

J. Houston Johnston, 1186 Piedmont Ave., Atlanta. Graduated from University of Virginia in civil engineering. Recently in private practice as consulting engineer in the State of Georgia.

IDAHO

Ivan C. Crawford, College of Engineering, University of Idaho, Mason City. Graduated from University of Colorado in civil engineering, 1915. Has been Dean of University of Idaho since 1923.

ILLINOIS

Wilfred W. DeBerard, 520 North Michigan Ave., Chicago. Mr. DeBerard is a sanitary, hydraulic and municipal engineer, recently a member of the Regional Planning Association of Chicago.

INDIANA

Albert H. Hinkle, Highway Commission, Indianapolis. Graduated from the State University in civil engineering, 1907. Specialized in highway construction and maintenance.

IOWA

P. Frank Hopkins, Mason City. Civil engineer, specializing in the design and construction of municipal utilities. Recently City Manager of Mason City.

KANSAS

Robert J. Paulette, Salina. Consulting civil engineer. Graduated from University of Missouri, 1912. Has specialized in municipal construction.

KENTUCKY

Robert V. L. Wright, Washington, D. C. Attended University of Maryland and Columbia University. Consulting engineer experienced particularly in municipal, public, utility and railroad projects.

LOUISIANA

Orloff Henry, 1811 Masonic Temple, New Orleans. Graduated from Tulane University, 1906. Was engaged in private practice as a consulting engineer.

MAINE

George M. Williamson, Washington, D. C. Graduate of Cornell University, special student at Colorado School of Mines. Has recently engaged in consulting practice in southwestern United States.

MARYLAND

Abel Wolman, 2411 North Charles St., Baltimore. Consulting engineer. Graduated from Johns Hopkins University, 1915. Has recently specialized as engineer in the sanitary field.

MASSACHUSETTS

Col. Charles R. Gow, Boston. Graduated from Tufts in engineering. Subway and tunnel engineer, chairman of Boston's Metropolitan planning division, former postmaster of Boston,

MICHIGAN

Mortimer E. Cooley, University of Michigan, Ann Arbor. Formerly Dean of College of Engineering and Architecture, University of Michigan. Past Chief Engineer U. S. Navy.

MINNESOTA

William N. Carey, 96 Portland Ave., St. Paul. Mr. Carey is consulting engineer carrying on a general practice covering municipal, railroad, river and harbor developments and city planning.

MISSISSIPPI

George H. Wells, Washington, D. C. University of Virginia. General engineering experience, covering design and construction. Recently a member of the staff of the Cincinnati Union Terminal Company.

MISSOURI

Hugh Miller, Washington, D. C. Graduated from Princeton University, 1901. Formerly Dean, College of Engineering, George Washington University.

MONTANA

Donald A. McKinnon, Washington, D. C. Graduated from University of South Dakota in civil engineering. Formerly engineer with the Highway Department of South Dakota.

NEBRASKA

Albert C. Arend, Peters Trust Building, Omaha. Graduated from Rutgers College in civil engineering, 1892. Recently engaged in general consulting practice in industrial and public utilities and river channel protection. One time City Manager of Omaha.

NEVADA

Richard A. Hart, Chamber of Commerce, Salt Lake City. Graduated from University of Utah in civil engineering. Specialist in drainage and irrigation projects.

NEW HAMPSHIRE

Harold J. Lockwood, Dartmouth College, Hanover. Professor of power engineering at Thayer School, Dartmouth College, and consulting engineer.

NEW JERSEY

Abraham B. Cohen, South Orange. Graduated from Purdue University in civil engineering. Consulting engineer specializing in design and supervision of construction on viaducts, bridges, concrete structures, and grade crossing eliminations.

NEW MEXICO. See Arizona.

NEW YORK

Arthur S. Tuttle, Room 140, Capitol Building, Albany. Chief engineer for the New York City Board of Estimate for thirteen years, vice president of the American Society of Civil Engineers.

NORTH CAROLINA

Herman G. Baity, University of North Carolina, Chapel Hill. Dean of Engineering School, University of North Carolina. Active in engineering educational work in N. C. Association. Sanitary engineer N. C. State Board of Health.

NORTH DAKOTA

Harold C. Knudsen, Dickinson. Connected with the State Highway Department of North Dakota for a number of years.

OHIO

William A. Stinchcomb, Metropolitan Park Board, Cleveland. Civil engineer connected with public service work in Ohio. Since 1920, has been engineer for the Cleveland Metropolitan Park System.

OKLAHOMA

Philip S. Donnell, A. & M. College, Stillwater. Graduated from Clark University and Harvard University. Connected with U. S. Coast and Geodetic Survey. Formerly Professor and Dean of Engineering, University of New Mexico. At present, Dean of Engineering, University of Oklahoma.

OREGON

Claude C. Hockley, 744 Brazee St., Portland. Consulting engineer. Private practice. Graduated from Ohio Northern University in civil engineering. Formerly identified in a paper manufacturing industry and as consulting engineer.

PENNSYLVANIA

William H. Gravell, 225 South 15th St., Philadelphia. Specialist in building construction and Major, Corps of Engineers in A.E.F.

RHODE ISLAND. See Connecticut.

SOUTH CAROLINA

J. L. M. Irby, Cleveland. Graduated from Citadel College. Has been identified in engineering work in the development of lumber industry. Served as Captain of Engineers in World War.

SOUTH DAKOTA. See North Dakota.

TENNESSEE

Col. Harry S. Berry, Nashville. Mr. Berry is a West Point graduate and served in the army in Philippines, Mexico and overseas. Formerly a State Highway Commissioner.

TEXAS

Robert A. Thompson, 1101 Congress St., Dallas. Consulting civil engineer. Graduated from University of Texas in civil engineering and M.A. Formerly in railroad work and member of Engineering Board Interstate Commerce Commission on railroad valuation. In charge of irrigation and reservoir work throughout Southwest.

UTAH. See Nevada.

VERMONT. See New Hampshire.

VIRGINIA

James A. Anderson, Virginia Military Institute, Lexington. Professor Civil Engineer, V. M. I. Graduated from Virginia Military Institute and Cornell University. Has been identified with engineer educational work for a number of years.

WASHINGTON

Gene Hoffman, State Highway Department, Olympia. Has been prominent in State Highway work in Washington for a number of years.

WEST VIRGINIA

M. Lindsay O'Neale, Fairmont. Graduated from Columbia University in mining engineering. Has been identified with the mining industry of West Virginia as consultant and as an operating official.

WISCONSIN

James L. Ferebee, 2851 North Lake Drive, Milwaukee. Graduated from North Carolina State College in engineering. Has specialized in sewage disposal and water supply for municipalities. Recently sewage engineer for Milwaukee.

WYOMING

Francis C. Williams, Sheridan. Graduated from Massachusetts Institute of Technology. Has been in private practice in Wyoming specializing in railroads, water supply, and irrigation work.



Keystone

National Planners Mitchell, Delano, Eliot, Merriam

THE PLANNING BOARD

ALTHOUGH the National Recovery Act and its offspring, the Public Works Program, were begot in an emergency, there is to be no aimless squandering of Federal funds, no spending in haste to be regretted when the bills fall due. Well warned by the disastrous results of feverish wartime expenditures, the Administration is determined that all sponsored projects shall be as sanely conceived and soundly executed as if there were no emergency.

A National Planning Board, responsible directly to the Administrator, has as its primary function the "formulation of a comprehensive plan" for the nation, to ascertain not alone how well-proposed developments will ease the temporary emergency but how they will coincide with the future growth of the State, county, or city for which they are built.

In outlining the scope of activities intended for the Board, the rules prescribed by the President for the operation of the Public Works Administration, state:

"Its functions are to advise and assist the Administrator in the preparation of the 'Comprehensive program of public works' required by the Recovery Act through —

"1. The preparation, development, and maintenance of comprehensive and coordinated plans for regional areas in cooperation with national, regional, State and local agencies; based upon

"2. Surveys and research concerning (a) The distribution and trends of population, land uses, industry, housing and natural resources; and (b) the social and economic habits, trends and values involved in development projects and plans; and through

"3. The analysis of projects for coordination in location and sequence in order to prevent duplication or wasteful overlaps and to obtain the maximum amount of cooperation and correlation of effort among the departments, bureaus and agencies of the federal, State, and local governments."

The board is now formulating tests and developing standards which are to be applied by State Engineers of the Public Works Administration to projects submitted. They are to consider such questions as conformity with a city, regional, or State plan, metropolitan or regional significance, priority of projects, sequence, regenerative character, competitive character, permanence, continuing cost, changes in community, and labor and material considerations.

PERSONNEL

Frederic Adrian Delano, chairman, uncle of the President and an outstanding regional planner. Once a railroad-man, he recently headed the Regional Plan of New York and Its Environs, and the Washington Planning Commission.

Prof. Wesley Clair Mitchell, an economist connected with Columbia University. Business cycles and inflation periods are Professor Mitchell's forte.

Prof. Charles Edward Merriam, political scientist for Chicago University, one-time 7th Ward Alderman in that city. A frequent adviser on municipal expenditures, he is well trained to advise on county or municipal stability.

Charles W. Eliot, II, executive secretary of the board, grandson of the Harvard president, now associated with the National Capital Park and Planning Commission.

HOUSING DIVISION

ROBERT D. KOHN
Director

N. MAX DUNNING
Assistant Director

EUGENE H. KLABER
Chief of Technical Staff

CONSULTANTS

HENRY WRIGHT, New York
MRS. EDITH ELMER WOOD, Cape May, N. J.
FREDERICK L. ACKERMAN, New York
JACOB CRANE, JR., Chicago
RUSSELL BLACK, Princeton, N. J.
COLEMAN WOODBURY, Chicago
HAROLD D. HYNDS, New York
TRACY AUGUR, Detroit

COORDINATING GROUP

MRS. MARY K. SIMKHOVITCH, New York
HOWARD GREEN, Chicago
ALFRED K. STERN, Chicago

LONG a topic for discussion, a "cause" to rally the socially minded, housing has at last been recognized by the government — recognized as a Public Work. Without the discussions and rallies, however, low cost housing probably could not have been recognized for what it is — the country's most needed type of building, socially and economically. It is the greatest potential employer of manpower, user of materials, raiser of the standard of living, eliminator of crime and disease, and contributor to community and individual well-being. In volume of needed construction it exceeds all other types of building a hundred-fold.

In the present emergency housing has the opportunity to demonstrate its potentialities, for gaining public support and governmental recognition. Because of the necessity for speed in selecting housing projects which can be undertaken at once, it has been impossible to frame a coordinated plan for a community development through slum clearance and large-scale housing. Only a few such plans have been conceived for actual sites, and they are not yet sufficiently developed to qualify for government approval. Theories must be tested, techniques must be approved. Under the Public Works program they will be. Approval of projects thus far granted indicates considerable latitude in the types of projects which can qualify for government aid. Other types undoubtedly will be approved, thus establishing a source of data to meet the varying conditions of locale.

It is noteworthy that less than fifty housing projects have thus far been submitted to the board. It is significant that many architectural firms of national prominence are now undertaking housing studies. Equally significant is the fact that younger designers are producing progressive solutions, and are granted the same opportunity for approval as the others.

The circular reprinted on page 160 will doubtless bring an increase in the number of projects to be submitted, expedite the task of examination, and permit prompt judgment as to their value.

Briefly, the objectives of the Housing Division, as stated in the preliminary program and as implied by its action on proposed schemes, are:

1. To put men to work immediately on needed construction.
2. To produce housing for low rentals, with $8 per room or less preferred, in which low initial land cost is a prime factor.
3. To improve standards by insisting upon:
   a. Low percentage of land coverage, 35 per cent preferred.
   b. Maximum of light, air and privacy.
   c. Reduced density of population.
   d. Efficient, high quality construction and equipment for (1) safety, health and comfort of the tenants, (2) permanency throughout the life of the loan and (3) low maintenance and repair cost.
   e. Proper relation to city size, plan, transportation, industry, growth and economic status.
   f. Elimination of speculative profits resulting from involved financing and cheap construction.

Housing, planned with these objectives in view, and based upon the requirements outlined in the following circular, will enable the Housing Division to fulfill a cherished aim of the President — the inauguration of an intelligent national housing program as one of the major achievements of his administration.

CIRCULAR NO. 4

Information required with preliminary applications for loans for

LOW-COST HOUSING OR SLUM CLEARANCE PROJECTS

GENERAL INSTRUCTIONS

(See Circular No. 1, Part III, for information as to general policies relating to loans for housing projects)

In order to save applicants unnecessary expense in preparing detailed plans, specifications, and financial statements, only the information outlined below will be required for a preliminary application for a loan. If the examination of such a preliminary application indicates that the project is of a satisfactory character, the applicant will be encouraged to prepare the additional plans and data required for a final application.

This form of application is designed for private limited dividend corporations formed to undertake the particular housing project. Other applicants may be required to furnish some additional information.

Applications, together with supporting data, should be submitted in duplicate direct to the Administrator of Public Works, Division of Housing, Washington, D. C. Preliminary applications for loans for low-cost housing or slum clearance projects should *not* be submitted to State advisory boards.

The estimated costs required to be given should be based on the labor requirements and other special conditions set forth in the National Industrial Recovery Act, particularly section 206.

INFORMATION REQUIRED

I. The Applicant

(*a*) Name and address.
(*b*) Name, title, and address of official representative or representatives with whom correspondence should be conducted.
(*c*) Name and address of applicant's attorney.
(*d*) Name and address of applicant's architect and consulting engineer.
(*e*) Name and address of each officer and director of the corporation.

II. Construction Period

(*a*) Estimated time that will elapse after funds are allocated before —
  (1) Work can be commenced.
  (2) Project will be completed.
(*b*) Estimate of average number of men to be employed 30 hours per week directly on the project.

III. Character of Project

(*a*) *Site:*
  (1) A map, showing the location and area:
    NOTE. — Physical features should be shown by two maps:
      (I) Key map of city showing these facilities and proposed site.
      (II) Sectional map showing these facilities in greater detail.
  (2) A statement of the assessed valuation of the land necessary for the project and the established ratio between assessed value and fair cash value.
  (3) Tax rate.
  (4) Any unusual conditions adversely affecting the cost of the project.
  (5) Description of present improvements, existing utilities, etc.
  (6) Approximate number of present owners and proposed method of acquisition of site.
  (7) Brief statement of advantages and disadvantages of the site for this particular project.
  (8) Relation to planned growth of the city, employment and shopping centers, transportation facilities, schools, recreational facilities, etc.
(*b*) *Proposed improvements:*
  (1) Character and type of building (fireproof, fire-resisting, ordinary construction, number of stories).
  (2) Number of apartments or houses.
  (3) Estimated number of persons to be housed.
  (4) Ground coverage.
  (5) Number and size of stores (if any).
  (6) A sketch of the site layout and sufficient specifications and architectural drawings of a typical unit in sketch form to illustrate the type and character of the buildings contemplated.

IV. Management

A description of the proposed permanent operating and management organization.

V. Summarized Cost and Income Statement

(*a*) *Cost.*—An estimate of the cost of the project summarized under the following items:

(1) Land (cost per square foot and total).
(2) Utilities, landscaping, streets, and other improvements.
(3) Buildings (cost per cubic foot and total).
(4) Architects' and engineers' fees.
(5) Preliminary and organization expense.
(6) Carrying charges during construction.
(7) Other costs.
(8) Total.
(9) Condensed estimates of the cost of labor and materials, stated separately.

(*b*) *Financing:*
(1) Amount of mortgage loan.
(2) Equity interest.
(3) Total.

(*c*) *Annual income:*
(1) Number of rooms and rental rate per room per month.
(2) Total annual rental,
(3) Linear feet of stores, rental rate, and total annual rental.
(4) All other annual income.
(5) Total gross income.
(6) Deduction of allowance for vacancies.

(*d*) *Annual expense:*
(1) Operating expense, number of rooms, and rate per room per annum.
(2) Taxes.
(3) Insurance.
(4) Total cost of operation.
(5) Balance available for interest and amortization.
(6) Interest on mortgage loan (assume 4 percent).
(7) Amortization (assume a constant rate of 1.35 percent on fireproof construction and of 2.4 percent on ordinary construction).
(8) Total interest and amortization.
(9) Balance available for dividends and reserves.

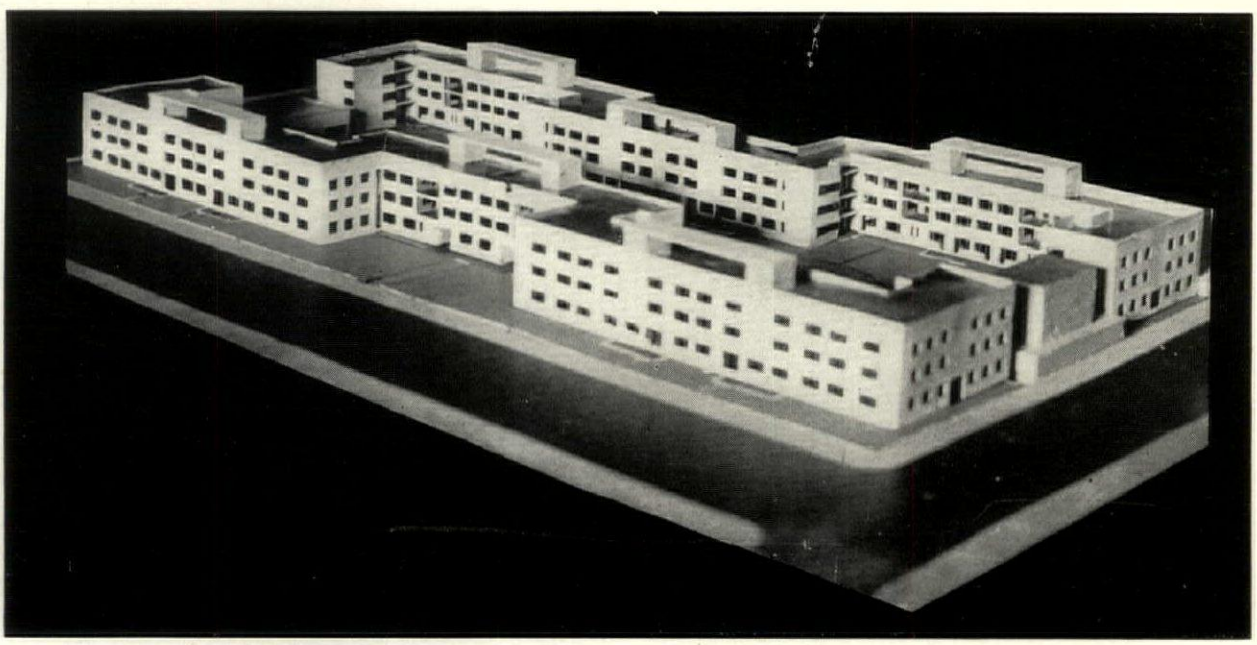
VI. Planning and Related Data

(*a*) Statement as to whether or not project is part of a larger plan or long-range program of development and, if so, give brief description of other parts of plan or program.

(*b*) Statement as to whether or not there is a city or regional planning board and/or housing board, whether this project has been submitted to such board, and the views of such board, if any, in regard to it.

(*c*) Statement as to whether the community is part of a metropolitan district and, if so, whether the project is coordinated with the plans for metropolitan development.

(*d*) State whether the project has been approved by governmental or civic bodies and, if so, by whom. Give any other evidence of local sentiment favoring the project.



Model of approved housing development in Philadelphia, Kastner & Stonorov, architects. See pages 240–241 for full discussion of details of the five projects that have already been sanctioned by Washington

PUBLIC WORKS—OR BUST

BY DAVID CUSHMAN COYLE

THE architects and engineers are having the public works question brought seriously to their attention by the fact that the incoming tide of general business recovery does not seem to be running into the construction industry. The fact is that there is a lot of uneasiness about the future of construction, and that uneasiness may be fully justified. Do public works offer the way out?

Construction in the past has been, in the main, a capital goods industry. Most of the architects' work has consisted of commercial or manufacturing plant, self-liquidating public projects, office buildings or apartment houses. All these structures had in common the fact that their solvency depended on a rapidly growing market. The money invested in each one was a capital debt, which could be paid only if the consumers were able to pay high enough prices to cover the overhead. Once there came to be an excess of capital plant above what the consumer market would carry, the true demand for new construction necessarily vanished. In order to create a renewal of demand for capital construction it would be necessary that some influence should destroy a lot of existing buildings and wipe out a large mass of capital values in stocks and bonds. That is just what time and bankruptcy have always done in past depressions, but this time the total burden was so immense that it could not be wiped out without wrecking the country. Thanks to the R. F. C. and the Federal Reserve, the wave of bankruptcy was stopped in 1932 and the debt burden was not removed in the usual manner. No doubt that action saved the country, but as a result of it there is no room for a new wave of investment.

In the past, when good times came back, there was room in the heavily deflated capital structure of the country for a larger amount of new investment in modernizing factories and providing office space and up-to-date living quarters. Now the N.R.A. has to use every means to prevent the installation of new machinery in order to keep the hard-won reemployment from vanishing. New factories or office buildings would merely serve to throw the hard-struggling survivors over the cliff into bankruptcy. New housing on any more than an experimental scale must face the problem of capital loss among existent owners and its effect on business in general. Altogether, the building industry finds itself in the uncomfortable position of offering a product which is so poisonous to business that the nation does not dare allow more than a small quantity of it to be injected into the precariously convalescent economic system.

Moreover, there is no prospect of any future time coming when an immense rate of growth of capital plant is likely to occur. The new self-liquidating construction, whether commercial or public, cannot safely be built any faster than the old can be liquidated, plus the new building necessitated by actual growth of business (which is not likely to be a large factor). The growth of demand for goods does not require a corresponding growth in capital plant because of the very rapid increase in the efficiency of machinery now taking place. The demand for additional office and living space depends on population increase, which is slowing down very noticeably. The end of the era when prosperity could be founded on the growth of business itself came last year. The mark of the transition point was the universal recognition that we had let ourselves in for more bankruptcy than we dared to face. That meant that at last we had overbuilt our capital plant so seriously that we could not throw off the excess and start the same thing over again. Something else had to be done, and in 1933 we are starting to do it.

In the future a much larger percentage of our building activity will have to be made up of public and semipublic works of the non-self-liquidating type. The characteristic of such work is that the cost is ultimately paid not out of consumer buying power but out of surplus income. Surplus income is personal income over and above what can conveniently be spent on living expenses; that is, it is the part of each person's income that in the old days would have gone naturally into Peruvian bonds and real estate investments. The public safety will no longer permit the use of larger sums for the creation of debts destined for default; so this money will have to be diverted into expenditure that lays no debt on business. The typical forms of such expenditure are public works paid for out of taxes resting on surplus income, and institutional projects paid for by contributions, stimulated by income-tax exemption. It is in the building of such non-poisonous forms of plant that the construction industry must find most of its future occupation.

Two aspects of this change of activity from com-

mercial to non-commercial work deserve the special attention of architects. One is that building in so far as it is commercial is one of the most unstable of all industries. Depending not on consumer demand but on the momentary rate of anticipated increase of consumer demand, it is rushed when the business curve slopes upward, and vanishes like a snuffed candle when business stops expanding. But the non-commercial construction is most able, and with the adoption of sound governmental policies of "timing," it can even be made to increase instead of diminishing when times are hard. The shift to public and semipublic work is therefore a shift from a large but violently unstable industry to a smaller but highly stable one.

A second feature is that the non-commercial plant is the physical foundation of the cultural advance that is obviously the general answer to the problem of what to do with plenty. When the necessities can be made with mechanical power and very little labor, evidently the rest of the labor has to be used on cultural or quasi-cultural occupations. The architectural profession may well regard with satisfaction a situation in which the solution of the economic tangle requires imperatively an expansion of cultural activity at the expense of the material side of business life.

But the present situation is a hard one for architects and engineers, because though the laws of nature have removed the chance for commercial work in large volume, it remains for the laws of the United States to provide the conditions for a corresponding expansion of public work. Congress has appropriated three billion dollars for public works, much of which naturally goes into roads and water systems that have no nourishment for architects.

The reason that there is not a larger program of public works to sustain the building industry now is that public opinion would not permit a larger expenditure. The craze for federal "economy" was an essential part of the madness through which we have been passing. If money is not spent, then men are idle, no wealth is created, and there is no money to spend. Architects and engineers are perhaps equally to blame with the rest of the American people for cutting the means of their own survival. Even after the present program was adopted, powerful influences have constantly attempted to force its abandonment. Architects and engineers happen to be located at the point where the heaviest blows fall if the expenditure is inadequate or slow. Least of all, then, should they allow themselves to oppose the rapid consummation of the existing work and the early adoption by Congress of a new and enlarged program for next year. Men have starved to death before this for a superstition; and it remains to be seen how many men in the building industry will attempt to destroy themselves as well as the rest of the country for the sake of the fetish of "economy."

Adjustment to the Age of Plenty is likely to be long and difficult, but in the end it will necessarily be found that the construction of cultural plant is an essential feature of the new system. In that direction the building industry will have to look for its major field of action in the future.



High School, Lake George, N. Y. E. S. Hewitt, Architect

". . . In the end it will necessarily be found that the construction of cultural plant is an essential feature of the new system. In that direction the building industry will have to look for its major field of action in the future"

THE PLANNING OF PUBLIC BUILDINGS

ARCHITECTS for Federal building projects will be selected by Assistant Secretary L. W. Robert on the basis of demonstrated ability. All architects have been requested to register with the Treasury Department by questionnaire.* Documentary evidence substantiating their records, and recommendations from others whose opinion is respected are the only additional means of influencing the choice of the architects for particular projects. For non-Federal buildings the choice of the architect will be made by the local body which applies for the loan under the N R A. In the latter realm lies the architects' opportunity for constructive promotional work. By assisting the local body in formulating the presentation of its loan application he automatically creates a potential commission for his office (the prime step in planning is getting the job). The differences in technique in designing public buildings as compared with private can perhaps be learned only by experience; yet the same principles govern both. In the first place, the fee for public work is smaller than that received from most private clients; 4.8 per cent has been established as the architect's fee for N R A work for government departments, that is, Federal buildings. Of course other agencies such as state, county and municipal authorities are at liberty to pay the usual six per cent, but they are likely to follow the lower figure set by the N R A.

With such fees the necessity for efficient office operation and for time and labor saving techniques is imperative. Waste motion and repetition of effort must be eliminated or all chance for operating in the black will vanish. The too-frequently-heard complaint that "I can only hope to break even on a government job," is a commentary on the office methods in many cases. A budget of the production expenses, both in time and money, while impossible to establish with absolute accuracy, will show up those portions of the work that may be taking more than their share of both or either. It will usually be found that possible profits are eaten up in that old habit of doing things over two or three times. The two principal reasons for this waste of time are, first, lack of thorough understanding of the requirements of the problem, and second, proceeding with inaccurate or insufficient data. The architectural offices which have been most successful in government work have made a practice of devoting the first weeks of study entirely to the thorough analysis of the requirements of the building.

The analysis begins with obtaining in conference and in writing a complete statement from the authorities in charge of the building, giving the exact requirements of every department and service. With the knowledge of these authorities, the next step is to check with the head of each department his needs and desires regarding space, arrangement and equipment. A thorough inspection of present quarters will usually reveal possibilities of increased efficiency in all three. The proper relationship of one department with another should then receive consideration. Provision for expansion must be taken into account at this stage of the investigation also.

In these analytical studies space and functional charts will be found to clarify the problems and simplify both discussions with the authorities and the actual planning which will follow. In connection with each type of building shown in the following plates, functional charts are shown, such as can be developed for the particular problem in hand. The charts are typical and include the usual requirements for the designated buildings. Several of the buildings shown in photograph and plan on the following pages are examples of the grouping of departmental functions either in one building or as a civic center. The buildings have been chosen to provide a wide range of examples in size, type, style, location, and use.

The blind following of a precedent without a thorough analysis of its pertinence to the particular problem to be solved has all too frequently caused a perpetuation of stereotyped planning rather than progress toward more efficient solutions of the problem. The fact that so many public buildings are obsolete is evidence of this fact. On the other hand, the recent city, county and state office buildings show the excellent results possible with the use of the functional-analysis method of planning. This method is of course neither new nor original but the technique has been well developed in the past decade. A notable example of this is the Camden County court house and office building for which Professors W. P. Laird and L. F. Pilcher made an exemplary analytical study.† There is now an opportunity to make similar studies in hundreds of communities, with an N R A loan in prospect.

* Pages 49 and 50, The Architectural Forum, July, 1933.

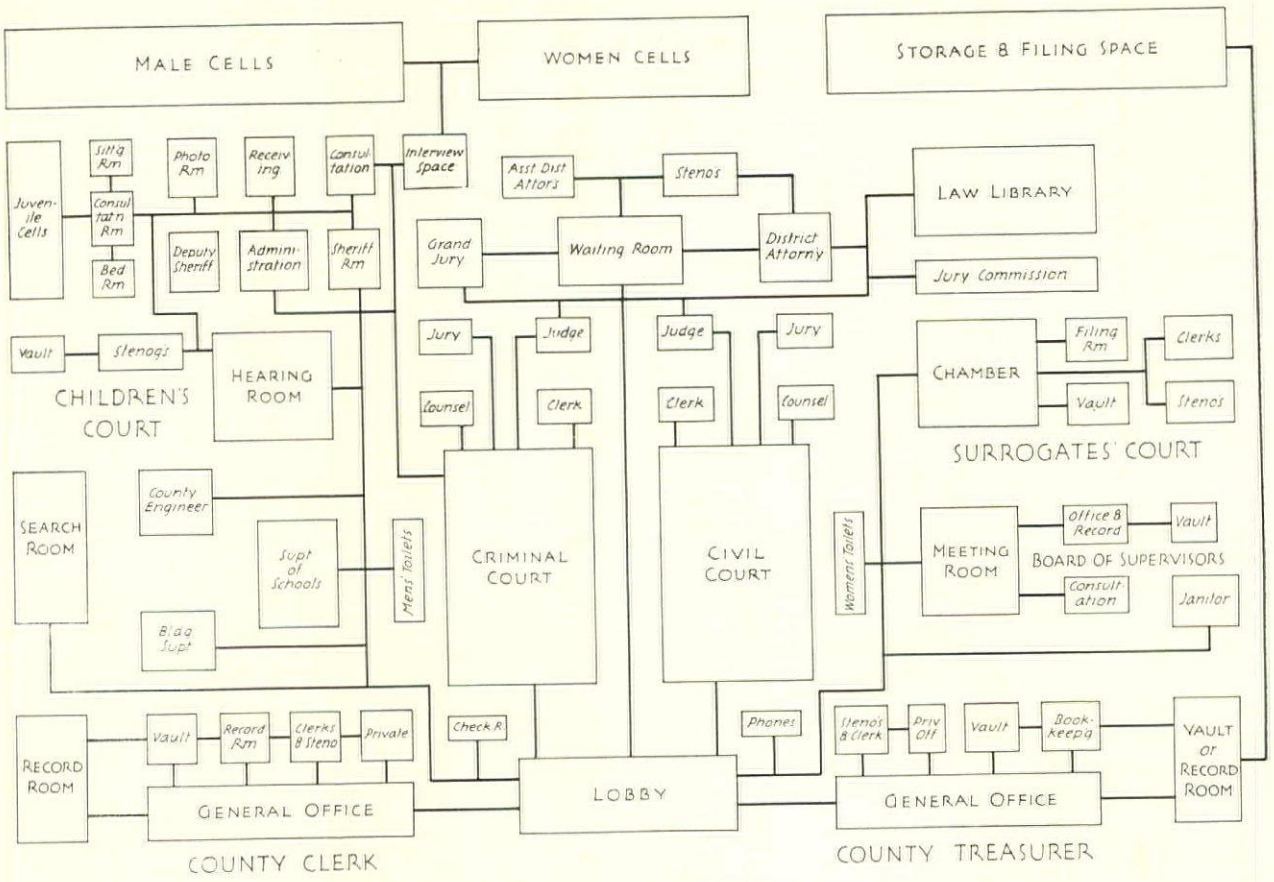
† Fully described and illustrated in The Architectural Forum, August, 1928, pages 291–297.



Hedrich-Blessing

RAMSEY COUNTY COURTHOUSE AND ST. PAUL CITY HALL
ST. PAUL, MINNESOTA

ELLERBE & COMPANY, ARCHITECTS,
HOLABIRD & ROOT, ASSOCIATE ARCHITECTS



COURTHOUSE FUNCTIONAL CHART

THE COURTHOUSE

THE seat of the judicial branch of government, whether municipal, county, State or federal, is not, *per se*, a complicated building, as it normally provides for but four functions: (1) the conduct of public trials, (2) the office activities of the judges and court officials, (3) the selection of juries and their deliberation, (4) the detention of prisoners. However, courthouses frequently provide facilities for many related governmental departments, and in some cases, to constitute practically county office buildings.

The building usually provides a court for civil cases, one for criminal cases, and a surrogate's or probate court. A court for juvenile delinquents is often included, as increasing attention is directed to this phase of criminology while keeping it segregated from adult cases. A schematic presentation of the different elements is given in the accompanying chart.

Civil Court. Off public lobby; creates environment to uphold the dignity of the law. Must be large and well lighted; 40 x 50 ft., with height of 20 ft. or over, about ideal size. Two-fifths to one-half of space devoted to public, separated from active area by a low railing or balustrade. Remaining space includes judge's bench, desks for clerks and court attaches, witness stand, attorneys' tables, and the jury panel box for twelve. Lawyers prefer jury to face the light; jurors prefer to have their backs to windows.

Materials. Sound absorbing ceiling; resilient flooring; double windows recommended. Artificial lighting preferably indirect or near ceiling, avoiding glare.

Adjacent Rooms. Individual chambers for judges, office for clerk of courts, jury deliberation

room, which may be used also as hearing room, attorneys' consultation room. All of these to be in direct and prompt access to the court room proper without necessitating passage through a public corridor. A court records room and space for court reporter may also adjoin.

Criminal Court. Has same general requirements as civil court, with addition of adjacent room for detention of suspect, and direct communication therefrom to cells in same building or in county jail without passing through public space.

Children's Court. Generally not a public court, though visited by authorized persons interested in its operation. Has jurisdiction of all matters involving delinquency of persons under sixteen; hears and determines cases without jury, except where case involves felony. In design, avoid appearance of a court; provide hearing room, toilet, lavatory and rest room, judge's chamber, and space for stenographer and vault. Adjacent, quarters for probation officer, matron, etc.

Surrogate's Court. Has jurisdiction over probate of wills, administration of estates, guardianships. Will be equipped with fireproof vault for filing of records and valuable documents; space for expansion. Surrogate's chambers large enough for reception and consultation room, also a public judge's room, clerk's room and stenographer's space, and private office with toilet and lavatory.

Grand Jury Room. Approached through interviewing room and large waiting room connecting with offices of district attorney and his assistants. Clerks' and stenographer's spaces adjoining record rooms.

County Clerk's Office. Has charge of filing records and titles, for which a large search room and vault are required. Also large outer office for public, with clerks' cages, space for reference books and general information. Private office for the chief clerk, with stenographer's room, toilet and lavatory.

County Treasurer. Has general public office similar to county clerk's, for payment of taxes, registry of deeds, etc. Bookkeeping department in direct communication with vault and record room planned for considerable expansion. Private office with toilet and lavatory for treasurer; office for clerk and stenographer. With the county clerk and the county treasurer the surrogate's office is frequently correlated.

Law Library. Used by members of grand jury, district attorney and his assistants, judges of all courts, surrogate, magistrates and probation officers. Afford privacy to users.

Other Dependencies. County surveyor, with private office, drafting room, vault, and waiting room.

Jury Service. A jury assembly room, approximately 1,000 sq. ft., and waiting room. Separate lounges for men and women, approximately 400 sq. ft. each. Office of calendar clerk and two or three consultation rooms, about 300 sq. ft. each.

The detention division of the courthouse may constitute the county jail or amount only to temporary detention quarters for suspects awaiting trial. Divided into cell blocks for men and women, and, in separate location, for juvenile delinquents. All these to be correlated with sheriff's office, which requires about 200 sq. ft., deputy sheriff's office, about 500 sq. ft., and general administration office, about 250 sq. ft. Receiving room with shower, toilet and lavatory accommodation. Photographing and finger printing rooms; dark room; consultation room and interviewing space divided by solid special partition, with glass and perforations for conversation.

These quarters of detention to be within easy communication with the respective courts.



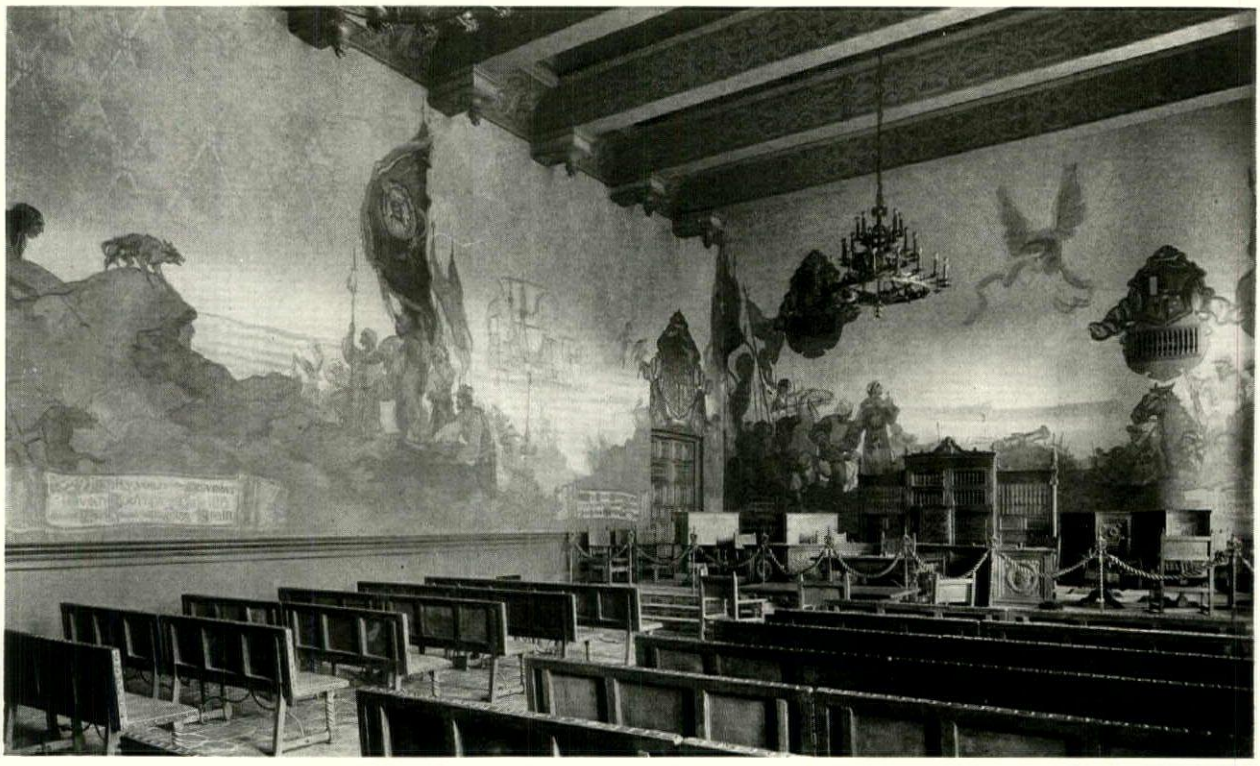
Hedrich-Blessing

Walls of natural English oak add to the simple dignity of the council chamber in the St. Paul Courthouse. The ceiling is of acoustical tile, flooring brown rubber tile and the metal work is of bronze



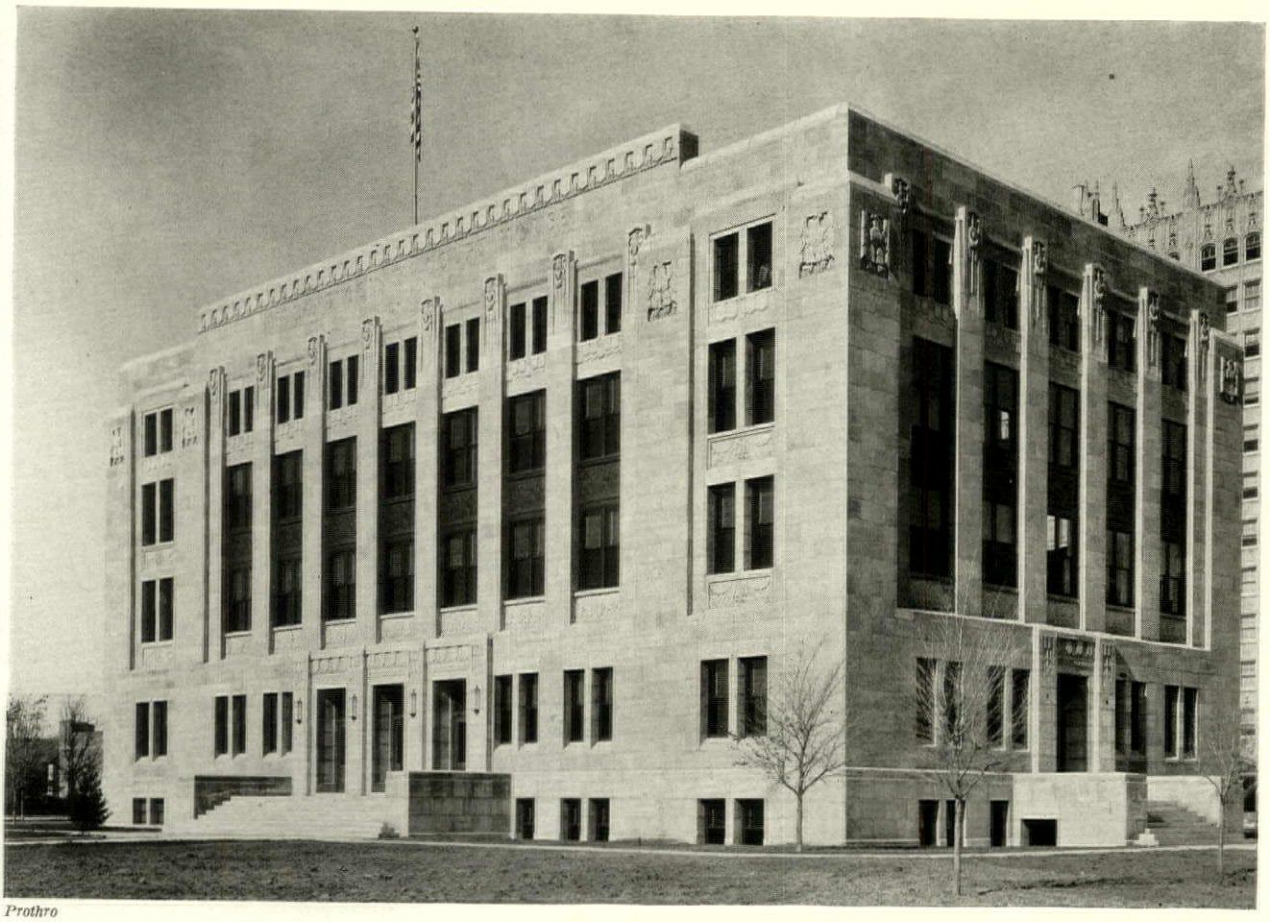
Mott Photos

This new courthouse is expressive of Southern California in its dramatic design and precedent derived from Spain



The court room shows the Spanish influence in its heroic historical murals and the detail of architecture and furniture

SANTA BARBARA COUNTY COURTHOUSE, SANTA BARBARA, CALIFORNIA
WM. MOOSER CO., ARCHITECTS

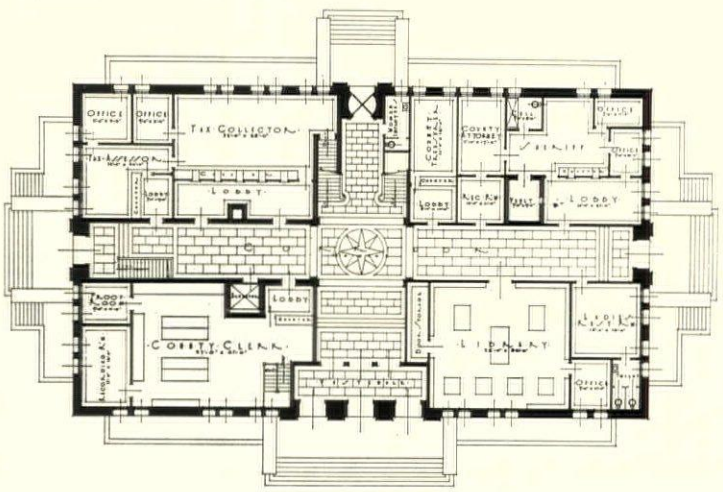


Prothro

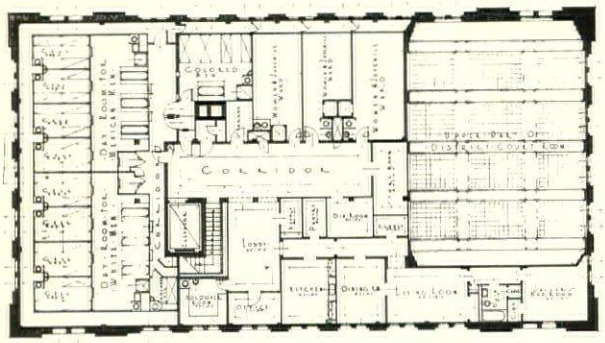
MIDLAND COUNTY COURTHOUSE, MIDLAND, TEXAS

VOELCKER & DIXON, INC., ARCHITECTS

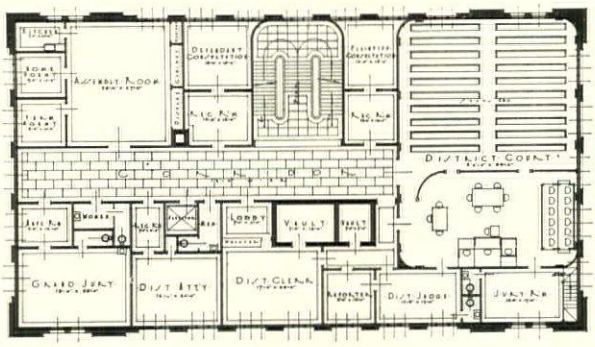
Housing all county activities, including a prison, this court house contains 673,820 cu. ft., and cost $300,000 to build or approximately 45 cents per cu. ft. It is of reenforced concrete construction, with exterior walls of limestone, steel windows, and cast iron spandrels painted in a verde copper effect to match the windows



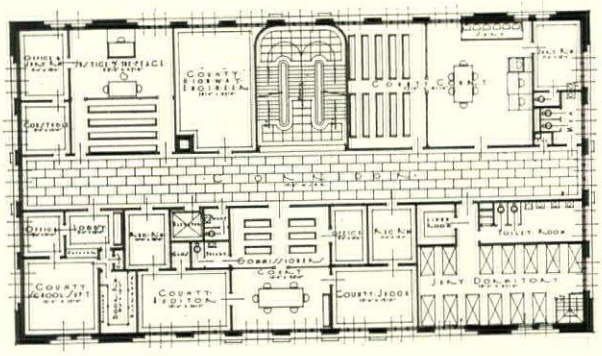
FIRST FLOOR



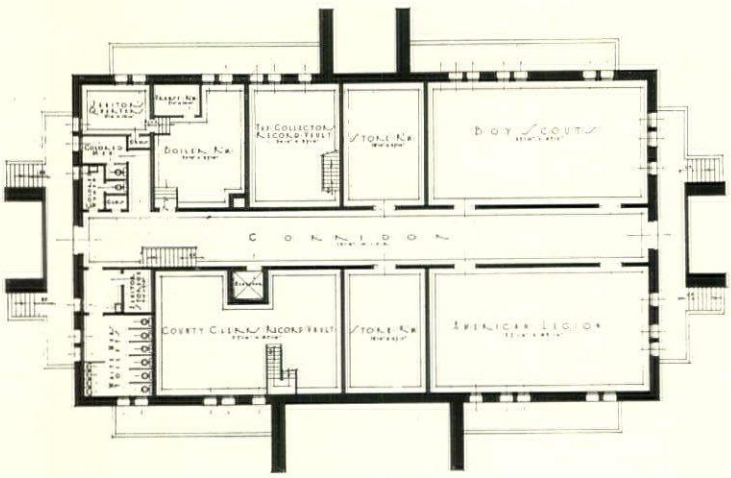
FOURTH FLOOR PLAN



THIRD FLOOR PLAN



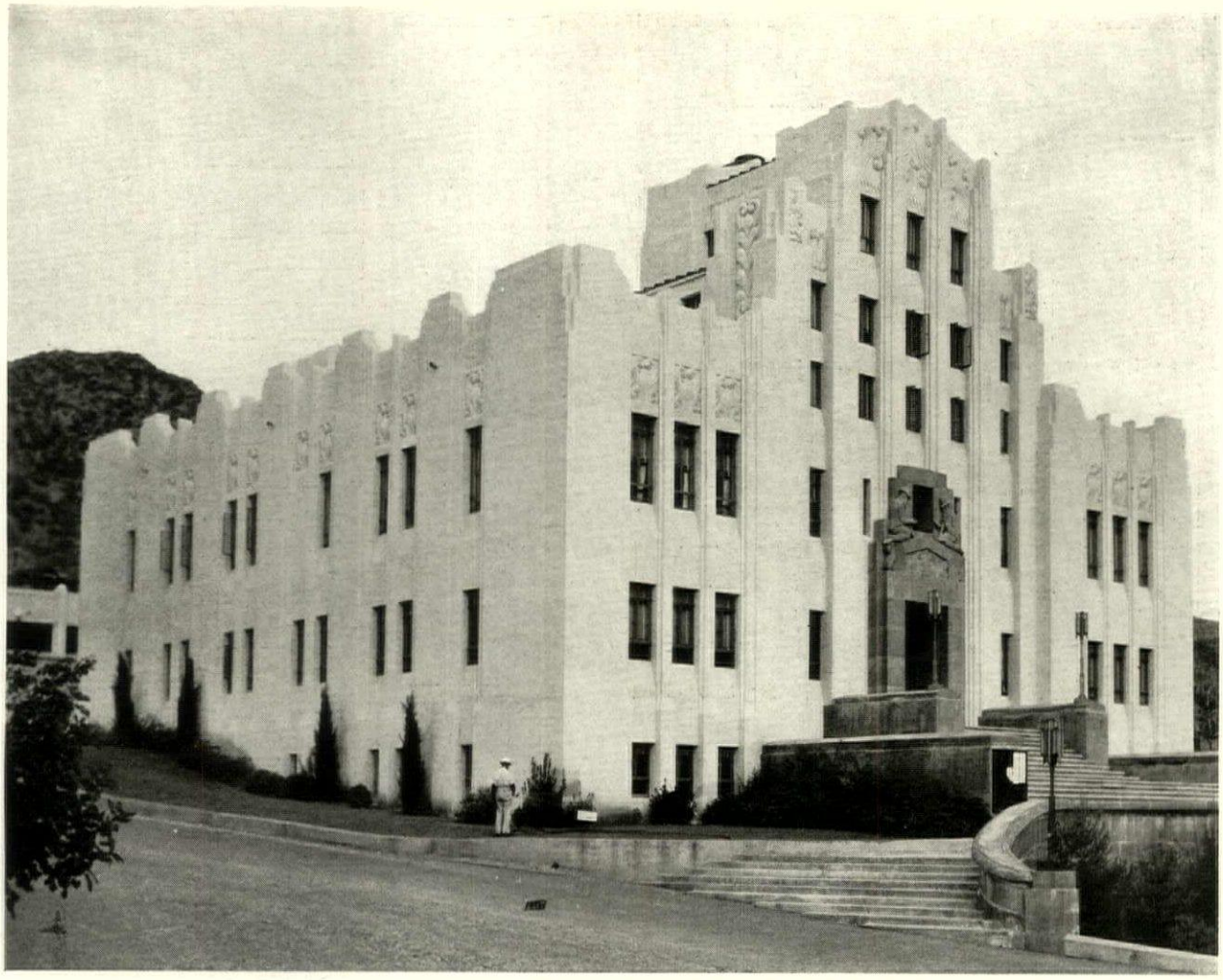
SECOND FLOOR PLAN



BASEMENT PLAN

MIDLAND COUNTY COURTHOUSE, MIDLAND, TEXAS

VOELCKER & DIXON, INC., ARCHITECTS



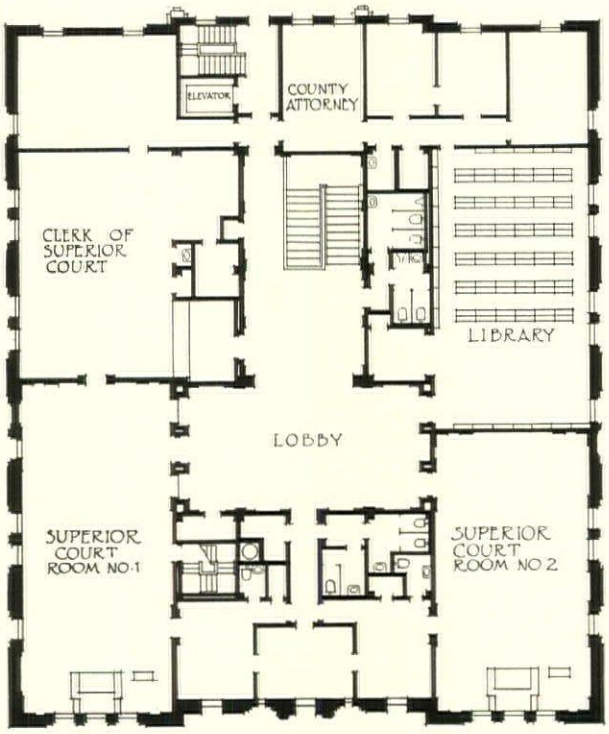
Picturesquely located in a canyon this building has a vigorous verticality. Of reenforced concrete bearing walls with a plastered finish and an interior construction of steel framing, it cost $275,000. Ornamental metal work is of bronze, the roof of copper. Placer miners are shown over the main entrance, below



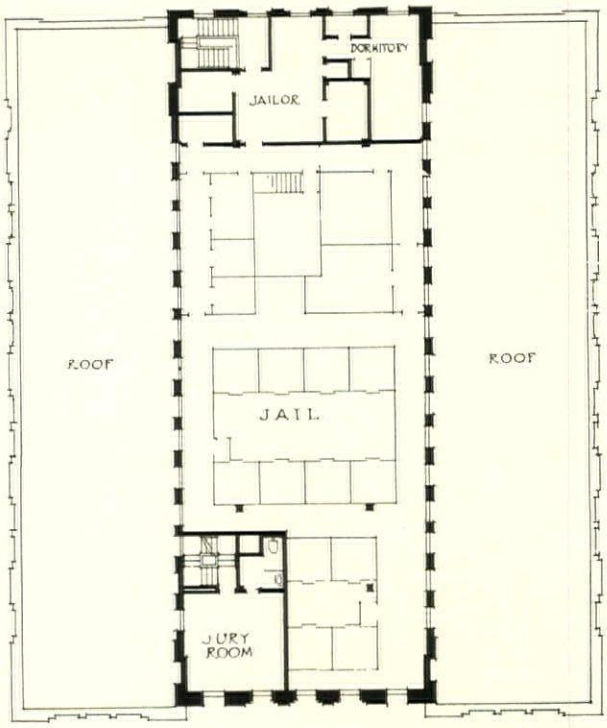
COCHISE COUNTY COURTHOUSE

BISBEE, ARIZONA

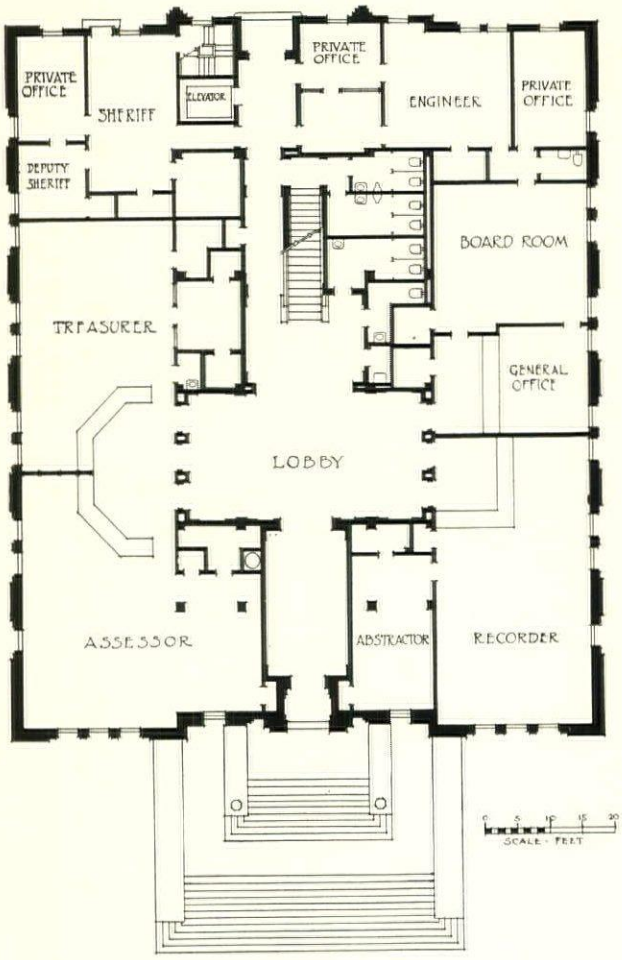
ROY PLACE, ARCHITECT



SECOND FLOOR PLAN



JAIL FLOOR PLAN



FIRST FLOOR PLAN

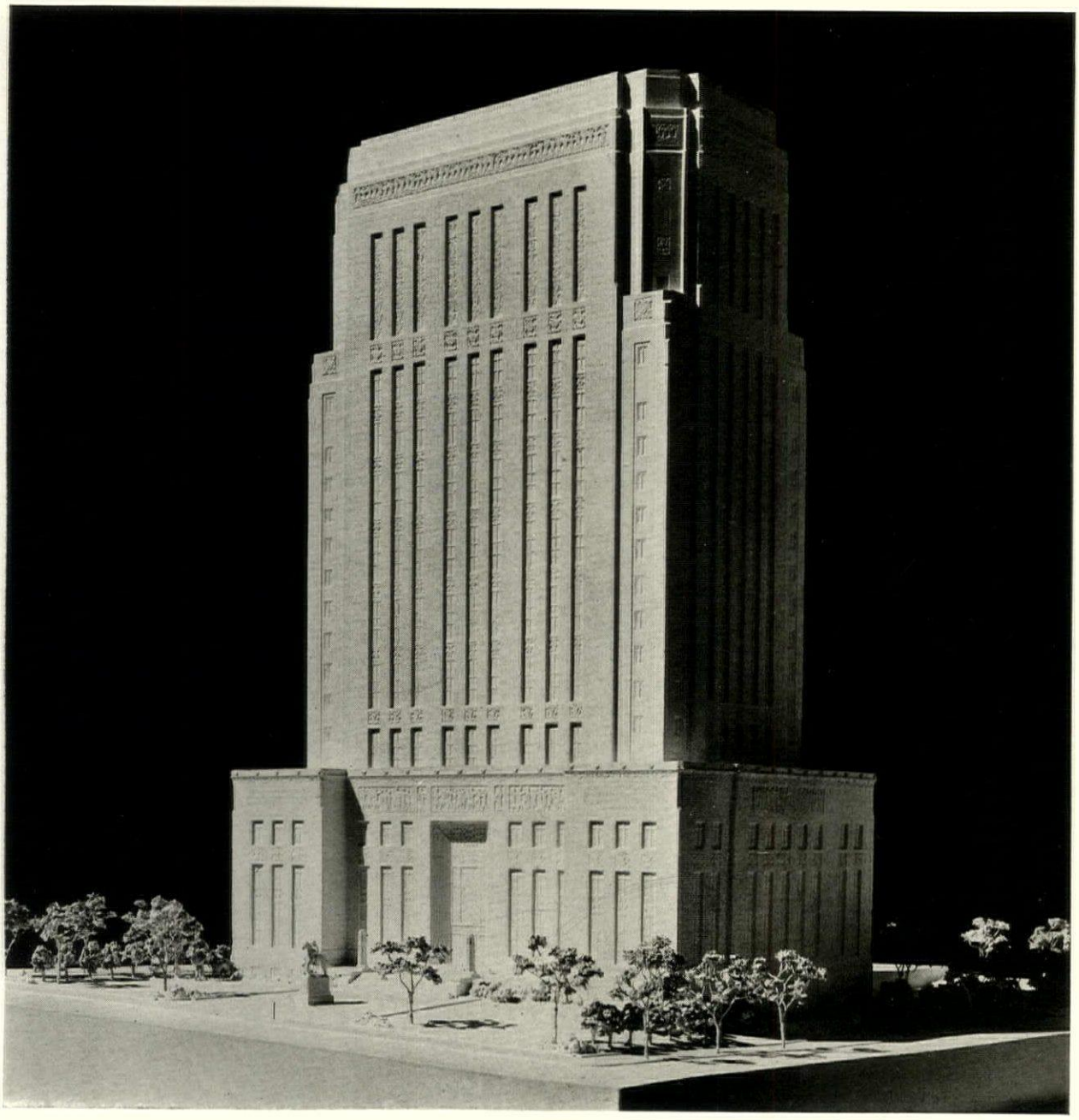
COCHISE COUNTY

COURTHOUSE

BISBEE, ARIZ.

ROY PLACE

ARCHITECT



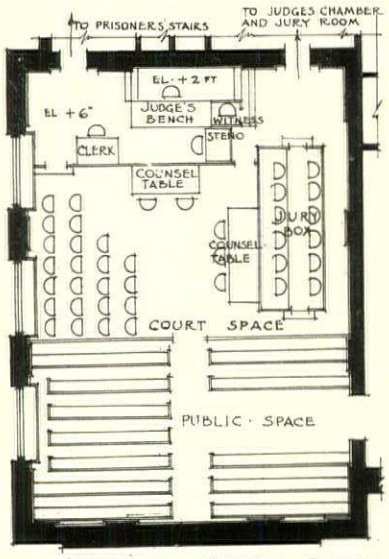
VIEW OF THE MODEL

JACKSON COUNTY COURTHOUSE, KANSAS CITY, MISSOURI

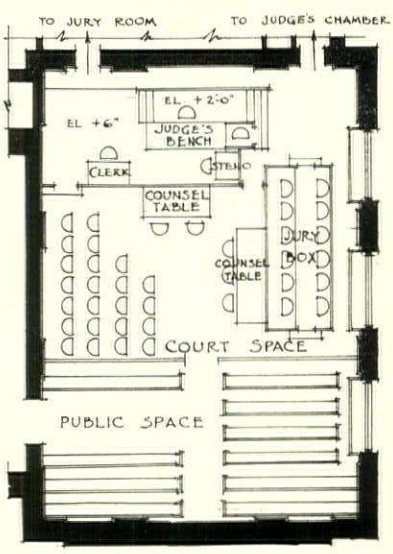
KEENE & SIMPSON, WIGHT & WIGHT,
FREDERICK C. GUNN, ASSOCIATE ARCHITECTS

EDWARD F. NEILD, CONSULTING ARCHITECT

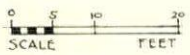
COURT HOUSE DETAILS

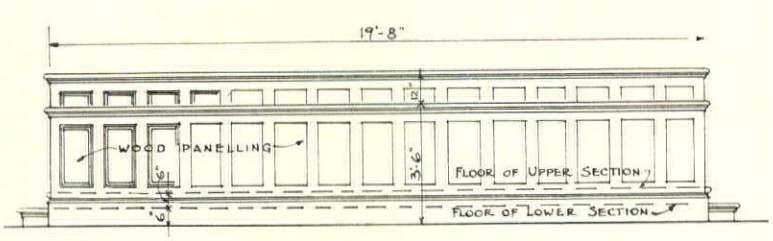


CRIMINAL · COURT · ROOM ·

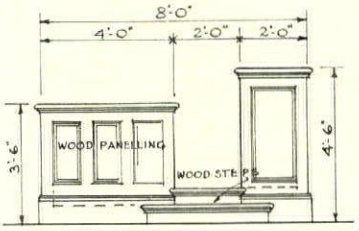


· CIVIL · COURT · ROOM ·



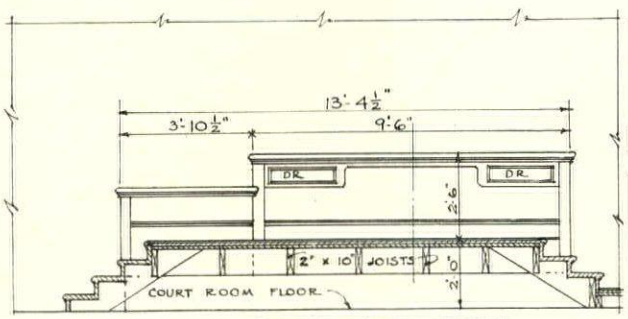


FRONT ELEVATION

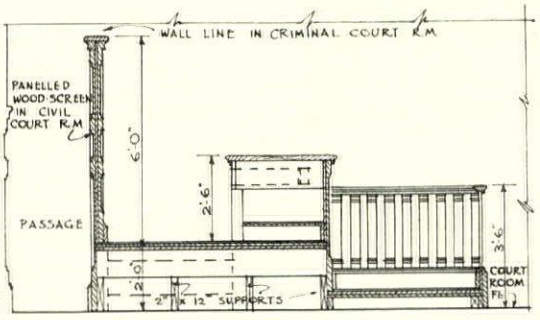


SIDE ELEVATION

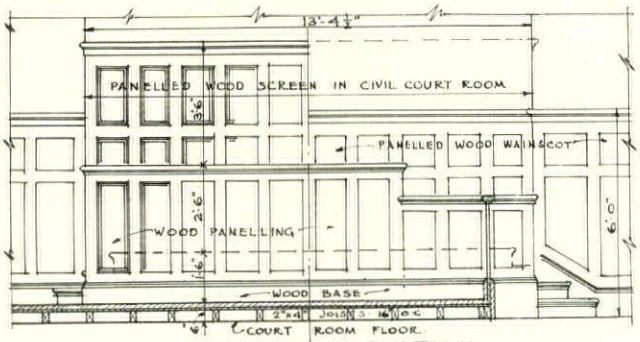
· DETAILS · OF · JURY · BOX ·



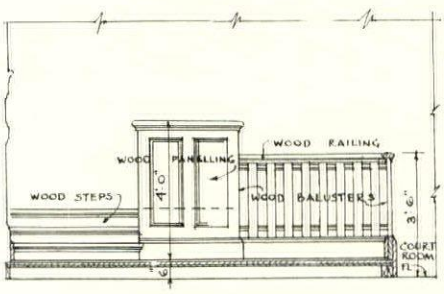
REAR ELEVATION



SECTION THRU JUDGE'S BENCH



FRONT ELEVATION



SIDE ELEVATION

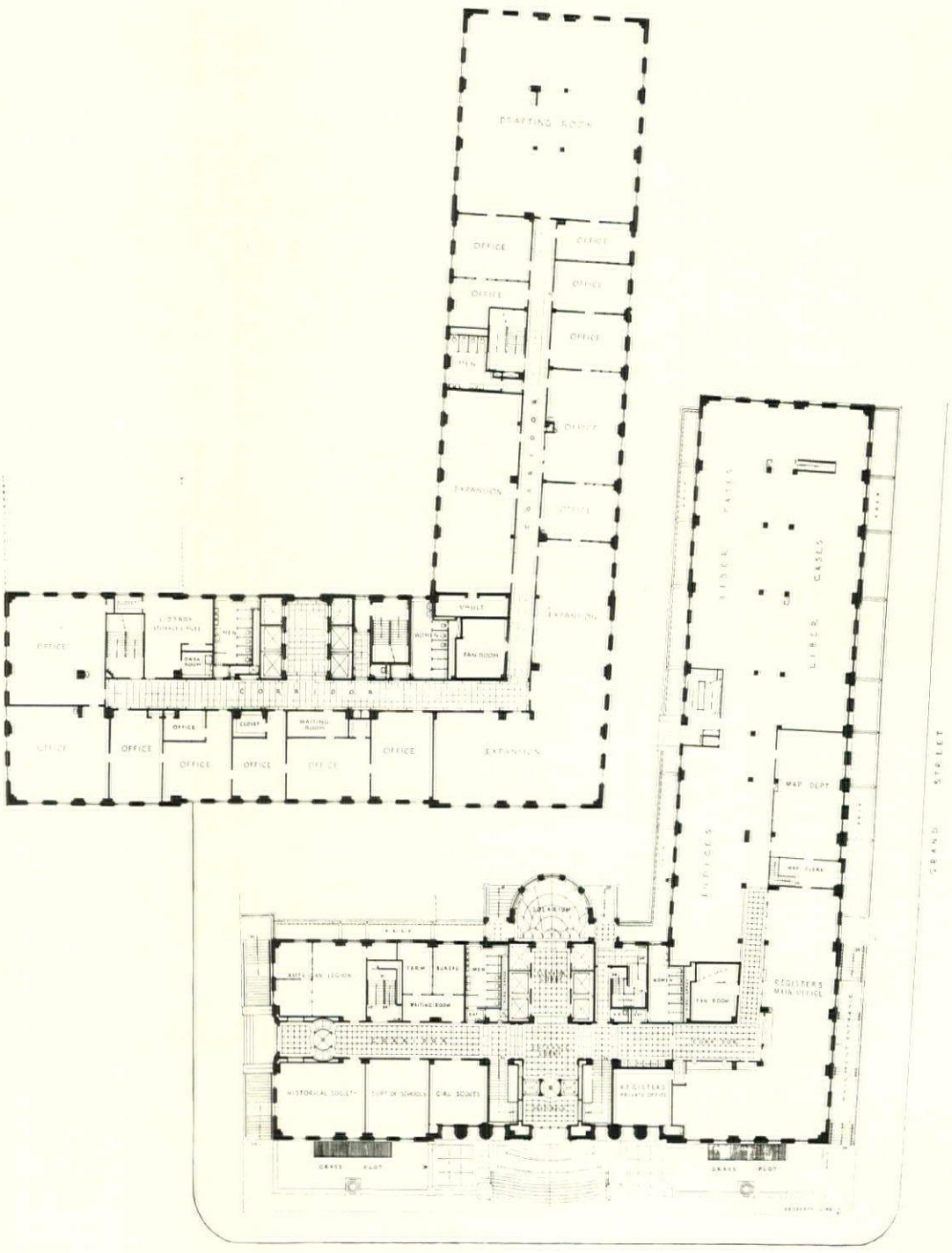
DETAILS · OF · JUDGE'S · BENCH ·



The county office building is becoming a necessary adjunct to the efficient conduct of county affairs. Federal financial aid is made available through the N.R.A. for such needed buildings. The exterior facing of this structure is brick, granite and limestone. It was built at a cost of about 54 cents a cubic foot

WESTCHESTER COUNTY OFFICE BUILDING, WHITE PLAINS, NEW YORK

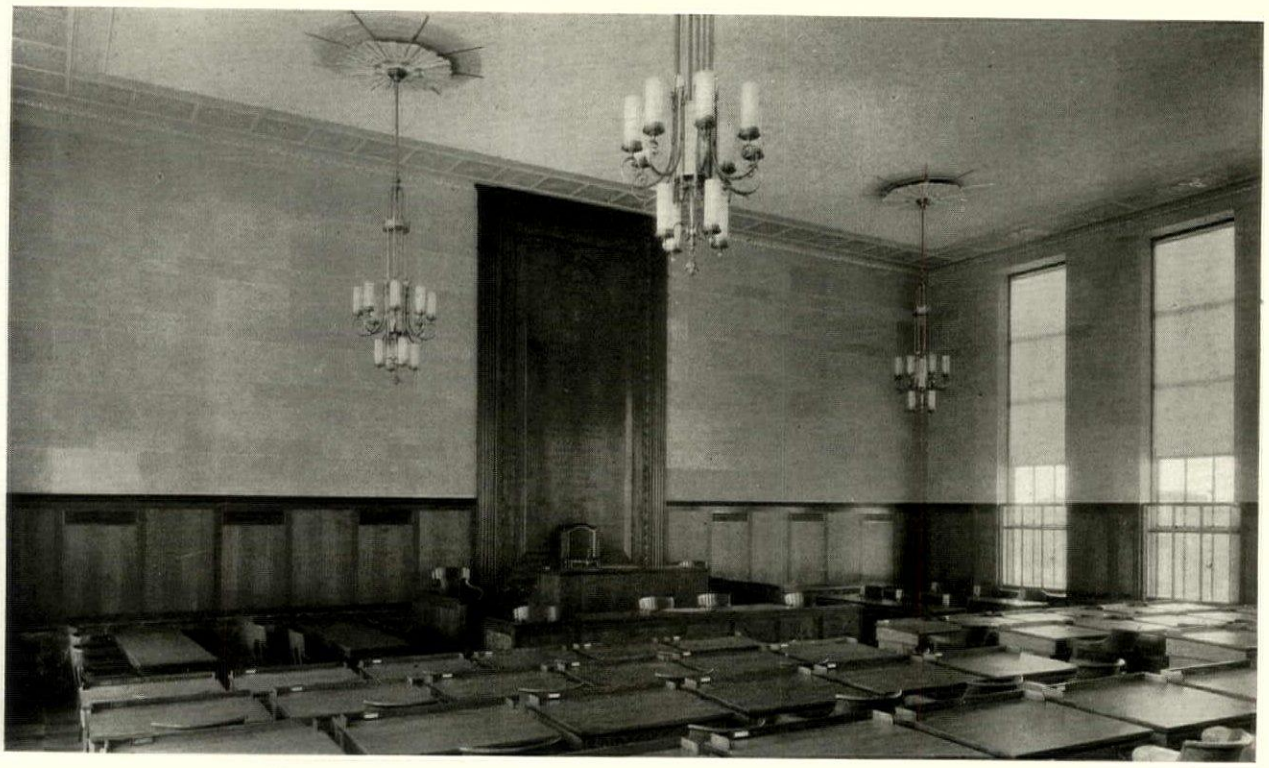
MORRIS & O'CONNOR, ARCHITECTS



FIRST AND FOURTH FLOOR PLANS

WESTCHESTER COUNTY OFFICE BUILDING, WHITE PLAINS, N. Y.

MORRIS & O'CONNOR, ARCHITECTS



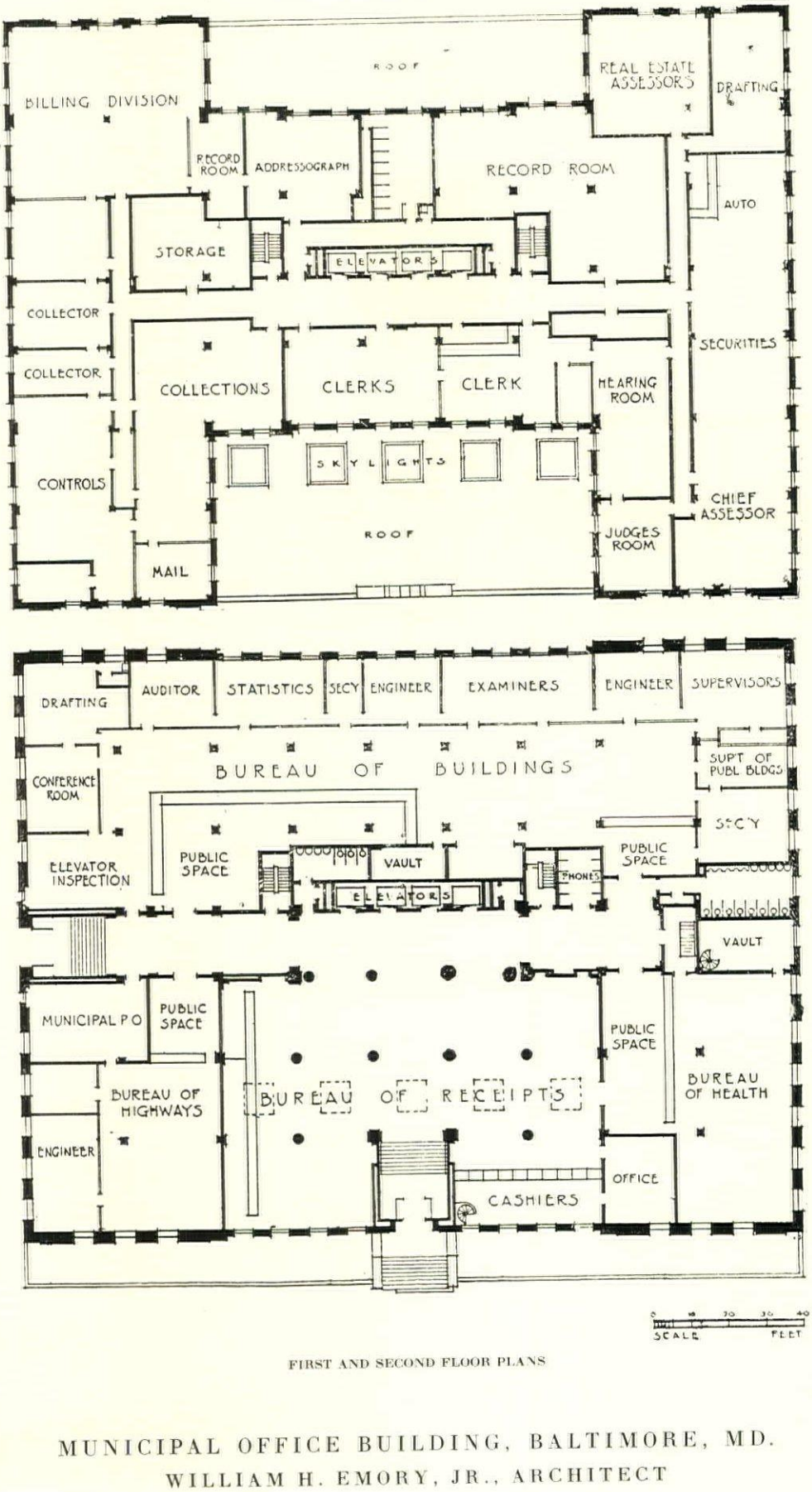
The board of supervisors room is simply treated with artificial stone walls above a dado of Brazilian Hud oak. The ceiling is plaster. Ventilating diffusers are combined with the lighting fixture shields



WESTCHESTER COUNTY OFFICE BUILDING

WHITE PLAINS, NEW YORK

MORRIS & O'CONNOR, ARCHITECTS



FIRST AND SECOND FLOOR PLANS

MUNICIPAL OFFICE BUILDING, BALTIMORE, MD.

WILLIAM H. EMORY, JR., ARCHITECT



Hughes Co. Photos

An old overcrowded city hall led to the authorization of a bond issue to defray the $1,485,000 cost of this limestone principal office building. Cities can now apply for Federal funds under N.R.A. provisions to accomplish similar results



THE MUNICIPAL OFFICE BUILDING

BALTIMORE, MARYLAND

WILLIAM H. EMORY, JR., ARCHITECT

CITY HALLS

WHETHER the city hall serves a large or a small community, certain departments in it will be visited more frequently than others and for this reason should be located on the ground floor not far from entrances. These departments are the tax, water and assessment bureaus, with which every citizen is familiar, while the mayor's office and council chamber find a more suitable location on the second floor, away from the public path. The departments of streets, buildings, and parks are next in order of importance, the public works commission being adjacent to the mayor's office and adjoined by the office of the chief engineer. A topographical division and a city planning commission also exist in many city halls. The bureaus of public welfare and the health department, when located in the city hall, should be within easy reach of those seeking aid, yet segregated from the more monumental lobbies of the official staffs.

In the smaller community various public departments, which in the larger city would have their own buildings, have their offices in the town hall. Among such are the police and fire departments, the health bureau, and the department of schools. The accompanying chart is intended more as a visual image of the interrelations of all these municipal offices, than as an actual plan of their locations or relative importance in a given building. It might however be regarded as a schematic plan of such a set of offices for one of the smaller communities, where they are all located in a single building.

In analysis the executive department of municipal government may be grouped under three main divisions, which determine the main architectural requirements of the city hall: (1) the legislative and executive departments; mayor, city council and board of aldermen; or the city commission in the case of a commission form of government; (2) the financial departments, covering taxes, assessments, accounts, etc.; (3) various public works and allied departments.

Department of Taxes. Includes provision for assessing and collecting, with offices related to each activity. Assessor's office has city maps always open for reference, conference room for discussion of assessments, private office of the assessor, space for his clerks and assistants, a fireproof vault for official maps. Collector's office contains public space with tables for filling of forms, counter with grille and clerical space behind, and vault, which may be shared by offices of city treasurer and auditor located adjoining. The treasurer and auditor each to have private offices and space for several assistants or clerks.

City Purchasing Agent. Buys supplies for all city departments, has private office and stock or store room for samples, about 70 sq. ft.

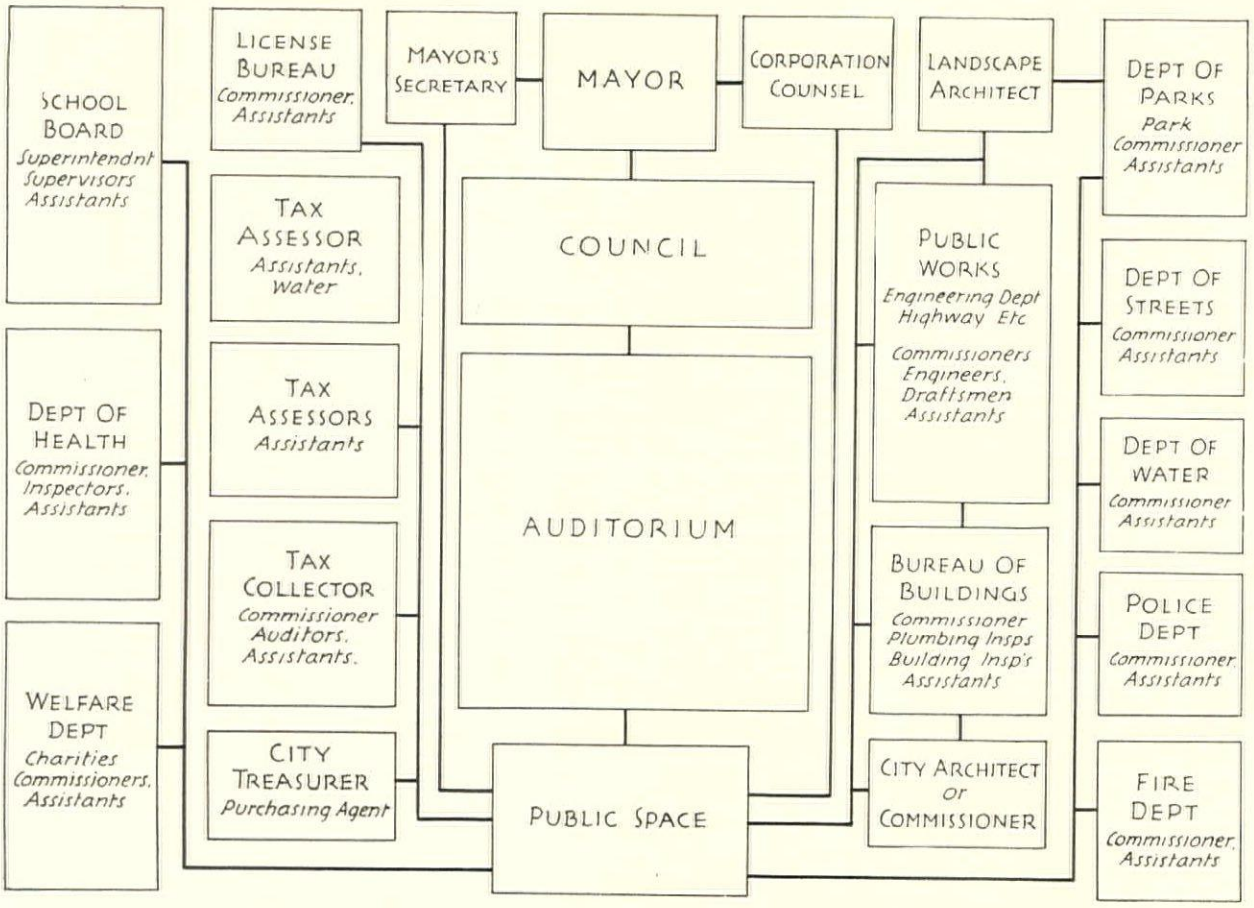
Mayor's Suite. Surrounded by the offices of his secretaries and advisers, should have private entrance apart from general offices or public corridors for protection from job-seekers and the like. But office not to be inaccessible to public as he must meet many persons daily. For this purpose an ample reception room for seating at least twenty persons, and space for private secretary and for guard near at hand.

Corporation Counsel. May have office connected to mayor's suite, should have extra room for secretary and assistant counsel and space for law library.

Commissioner of Public Works. With private office containing maps, charts and documents, and space for experts and secretaries.

Council Chamber or Commission Room. Need not be on same floor as mayor's office, as meetings occur only periodically, but should give access for public visitors at meetings. Separate entrances for councilmen and public advisable. Semicircular form often given to room, with raised platform for presiding officer, space for city clerk at right and an enclosure, about 70 sq. ft., for press at left. Two or three committee rooms to be provided near council chamber, one of which, large enough to accommodate 30 persons, to be available as small hearing room. Private antechamber for chairman of commission or president of board of aldermen. Toilets for men and women members of council.

Town Hall Auditorium. A room distinctive of traditional town custom, used to accommodate about 600 at town meetings, and convertible into community entertainment center for banquets, lectures, dances. Should have level floor with removable seats, which may be stored in space under stage or platform at one end of room. Coat rooms at entrance, fire exits, motion picture apparatus booth and rolling screen. Mechanical ventilation and acoustical materials for walls and ceilings may be concealed. Allow about 7½ sq. ft. per person in determining size of auditorium.



FUNCTIONAL CHART FOR CITY HALLS

City Clerk. Logical adjunct of city council or commission, keeps all records and minutes of council meetings, collects various license fees, keeps marriage records and all vital statistics. Large office space both for the waiting public and for his clerical assistants, separated by counter and screen. Private office and fireproof vault. Storage rooms for voting machines, ballot boxes, and various records.

Commissioner of Public Works. Supervises paving of streets, maintenance of sidewalks and sewers, may or may not be identical with superintendent of public buildings and offices. Will require large office, space for public visitors, counter space for examining plans, records, etc., work space for engineers and draftsmen. Private offices for various heads of divisions of the public works department. Vault for charts and records.

Commissioner of Buildings. If a separate official, will supervise building inspection and require working space for staff of examiners of plans, for clerks, for storage of documents. Size of department varies with requirements and magnitude of city.

Commissioners of Parks, Water, Streets, etc. Each with private office and space for assistants, filing cabinets and document reference. Drafting room, possibly combined with other departments.

City Engineer or Architect. With private office and drafting room space for several assistants; allow 35 to 40 sq. ft. per draftsman.

Police and Fire Commissioners. Private offices for each, with space for secretaries and assistants.

School Department. Requiring in general a degree of independence from political offices, since members are independently elected and not appointed by mayor. Accommodations consist of outer office with counter and space for several secretaries, office and waiting room for superintendent and secretary, board room, rooms for schoolhouse custodians, storage space for files.

Public Welfare and Industrial Aid. Departments often located in basement with direct but unobtrusive entrance from street, whence the city's poor or unemployed may enter in search of relief or employment. Waiting room, office of supervisor, cubicles or common rooms for nightly lodging, quarters for nurse or assistant.

Department of Health. Two separate street entrances, one for public and one for doctors coming for vaccines and serums. Quarters consist of public reception room with information desk, offices of inspectors and of chief commissioner, small dispensary and spaces for assistants and files.



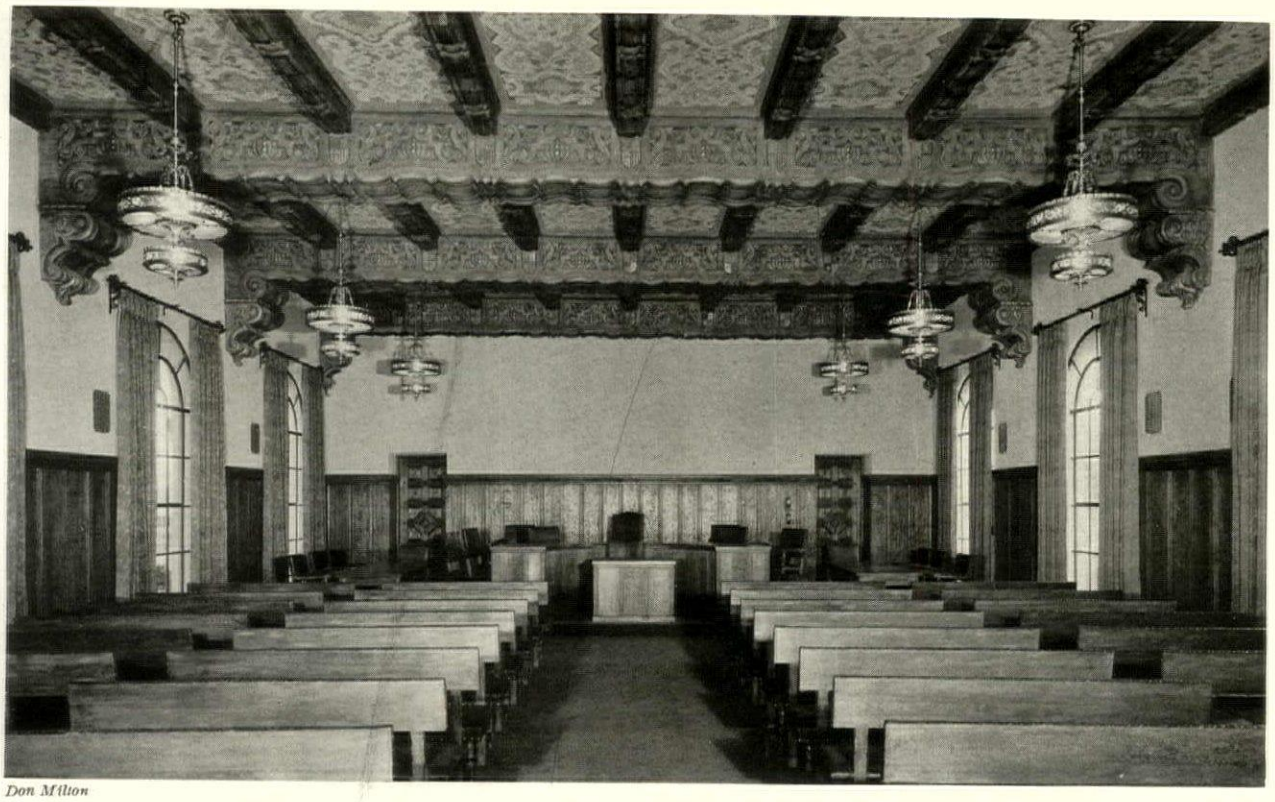
Mott

BEVERLY HILLS CITY HALL, BEVERLY HILLS, CALIFORNIA

KOERNER & GAGE, ARCHITECTS
AUSTIN & ASHLEY, CONSULTING ARCHITECTS

LOCATED in the center of the cinema belt, the Beverly Hills City Hall is typical of the rich treatment accorded many California public buildings. With its formal landscaped approach, the building has been given a setting that befits its architectural splendor. Like its near neighbor, the Los Angeles City Hall, its structural steel design conforms with the best practice in quakeproof construction, even its decorative cupola being sufficiently reenforced to withstand the severest of tremors and quakes. Parapet, entrance, and cupola have been treated in the accepted adaptation of the Spanish, which might be considered too ornate for most sections of the country, but which is well suited to the requirements and traditions of California.

In plan the building follows functional requirements in a logical and economical way, with the central portion containing those branches of the city government most often used by the public. Instead of needlessly piling up additional floors above them, the subordinate divisions of the city administration have been located in two wings which form a U-shaped plan.

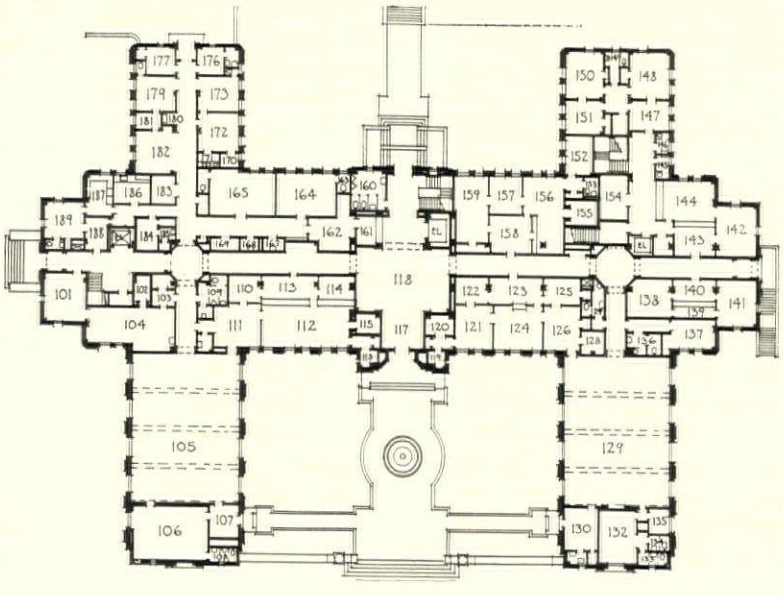


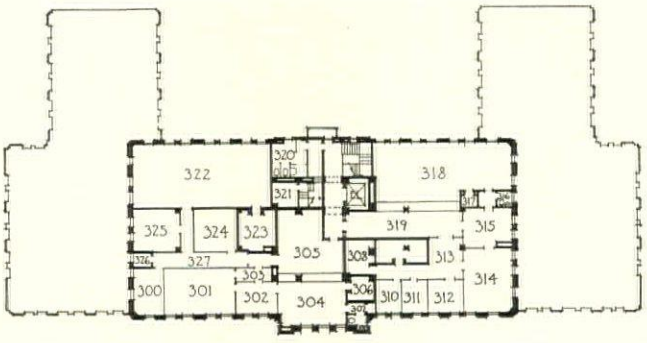
Don Milton

COUNCIL CHAMBER

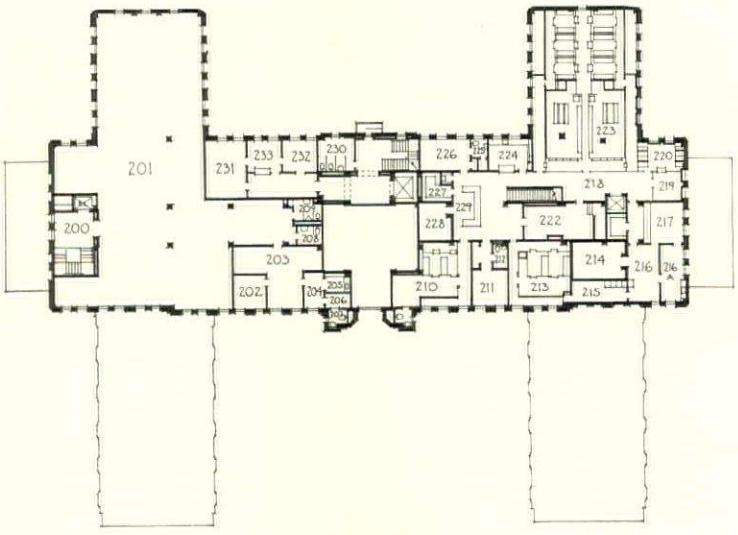
LEGEND
FIRST FLOOR

101. Auditor
102. Vault
103. Public
104. Bookkeeping dept.
105. Council chamber
106. Committee room
107. Entry
108. Toilet
109. Men's public toilet
110. Waiting room
111. City clerk
112. Work space
113. Public city administration
114. Public
115. Vault
116. Toilet
117. Vestibule
118. Lobby
119. Toilet
120. Stores
121. City attorney
122. Waiting room
123. Public city attorney
124. Work space
125. Waiting room
126. Court clerk
127. Women's toilet
128. Stores
129. Municipal court
130. Judge's chamber
131. Toilet
132. Jury room
133. Men's toilet
134. Women's toilet
135. Court stenographer
136. Toilet
137. Press room
138. Playground dept. and sign inspection
139. Clerk
140. Public
141. Traffic dept.
142. Lieutenant of Police
143. Public
144. Booking, teletype, radio
145. Toilet
146. Toilet
147. Clerk
148. Chief of Police
149. Toilet
150. Detective
151. Detective
152. Bill machine room
153. Toilet
154. Public waiting
155. Vault
156. Work space
157. Secretary
158. Public water dept.
159. Superintendent
160. Men's public toilet
161. Telephone operator, information
162. Telephone equipment
163. Toilet
164. Ward "B"
165. Ward "A"
166. Toilet
167. Utility
168. Janitor
169. Linens
170. Transformer room
171. Dark room
172. X-Ray room
173. Minor operating room "B"
174. Toilet
175. Toilet
176. Doctor's room
177. Office
178. Toilet
179. Minor operating "A"
180. Scrub up
181. Sterilizing room
182. Major operating
183. Recovery room
184. Nurse
185. Bath
186. Kitchen
187. Laboratory
188. Public
189. Health Officer
190. Toilet

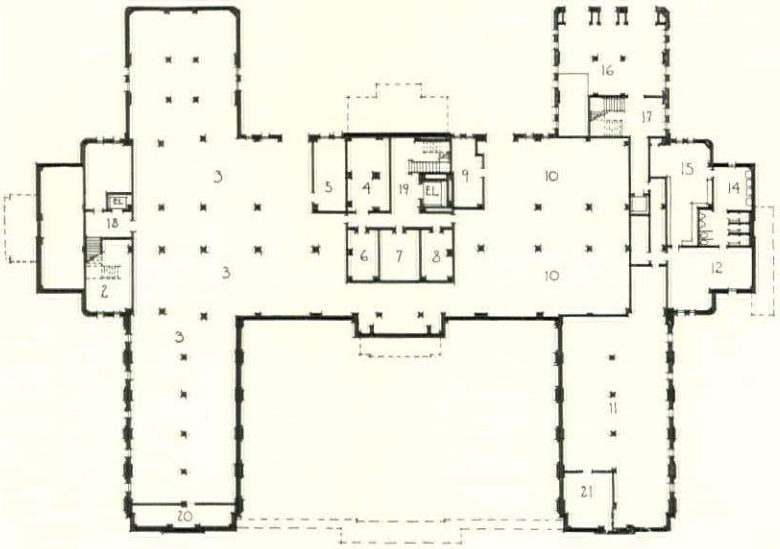




THIRD FLOOR PLAN



SECOND FLOOR PLAN



BASEMENT FLOOR PLAN

LEGEND
THIRD FLOOR

300. Street lighting supt.
301. City engineer
302. Timekeeper and order dept.
303. Public waiting
304. Work space
305. Public waiting
306. Vault
307. Toilet
308. Vault
309. Vault
310. Electric inspector
311. Specimen room
312. Plumbing inspector
313. Public waiting
314. Building inspector
315. Plan check room
316. Toilet
317. Vault
318. Work space
319. Public waiting
320. Men's public toilet
321. Women's public toilet
322. Drafting room
323. Vault
324. File dept.
325. Surveyor
326. Toilet
327. Passage

LEGEND
SECOND FLOOR

200. Lobby
201. Library
202. Librarian
203. Work room
204. Rest room
205. Kitchen
206. Locker room
207. Toilet
208. Women's toilet
209. Men's toilet
210. Women's exercise cor.
211. Matron
212. Bath
213. Juvenile exercise
214. Record vault
215. Dark room
216. Photographic
216-A. Laboratory
217. Identification
218. Corridor
219. Detention
220. Interview room
221. Stores
222. Show up room
223. Prisoners' play room
224. Kitchen
225. Bath
226. Jailer
227. Stores
228. Vault
229. Booking
230. Women's public toilet
231. Public space
232. Superintendent
233. Secretary
234. Drafting room

LEGEND
BASEMENT

1. Elevator machinery
2. Library storage
3. Car storage
4. Transformer room
5. Panel board room
6. Vault
7. Vault
8. Vault
9. Machinery room
10. Car storage
11. Pistol range
12. Police exercise room
13. Elevator machinery
14. Police toilet room
15. Police reporter's locker
16. Police car storage
17. Police hall and corridor
18. Hall
19. Hall
20. Fan room "A"
21. Fan room "B"

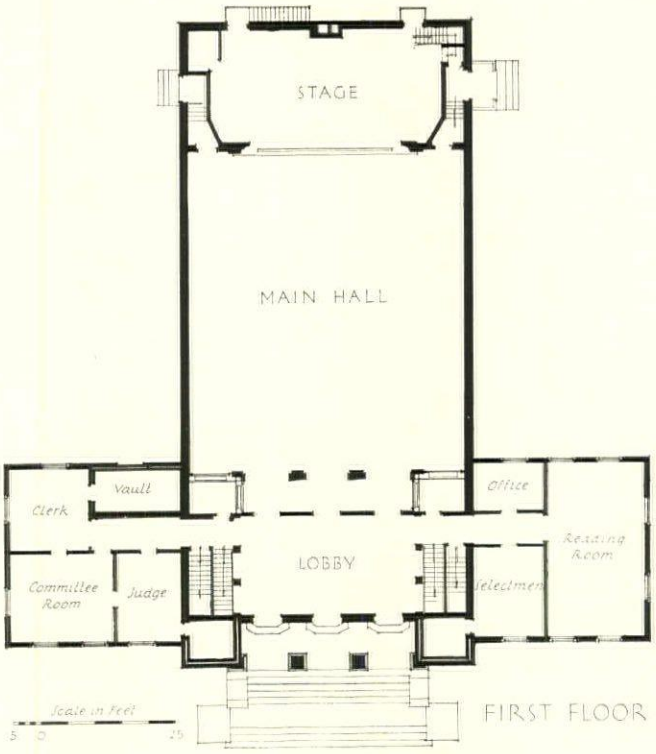
BEVERLY HILLS CITY HALL, BEVERLY HILLS, CALIFORNIA



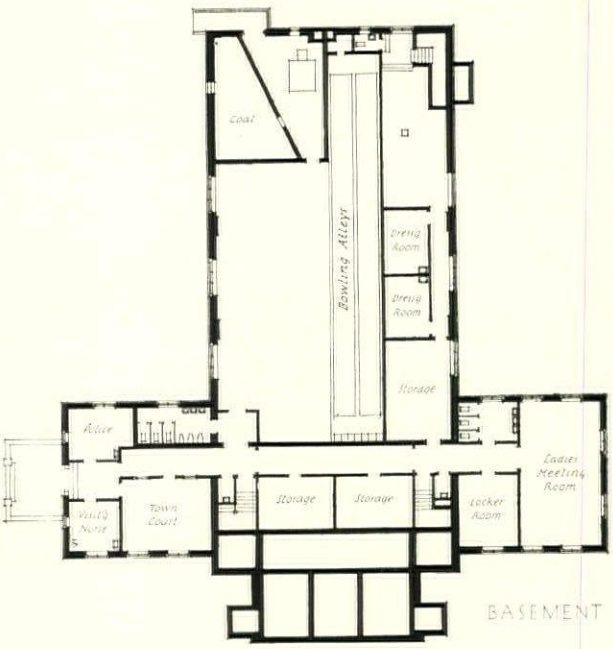
An unmistakably New England town hall built as a memorial. Similar halls are eligible for N.R.A. funds. It is built of red brick with white wood trim and cupola, slate roof and cast stone steps. Cost, $130,000

BRYAN MEMORIAL TOWN HALL, WASHINGTON, CONNECTICUT

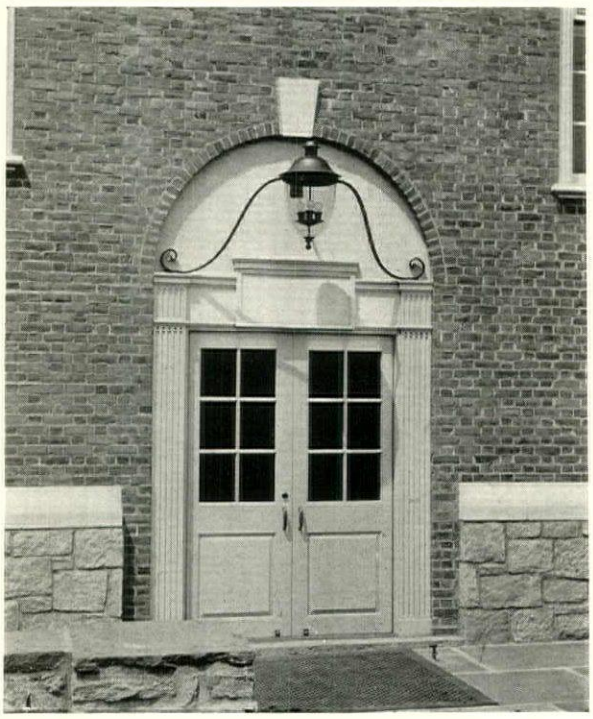
CAMERON CLARK, ARCHITECT



Like many other small town municipal buildings, this one has been planned as a general community center



An auditorium, reading room, and bowling alley supplement the usual facilities for town government



One of the minor entrances, which illustrates the thoughtfully studied harmony between the design and materials used — brick, stone, wood and wrought iron

BRYAN MEMORIAL TOWN HALL, WASHINGTON, CONNECTICUT

CAMERON CLARK, ARCHITECT



Wurts Bros. Photos

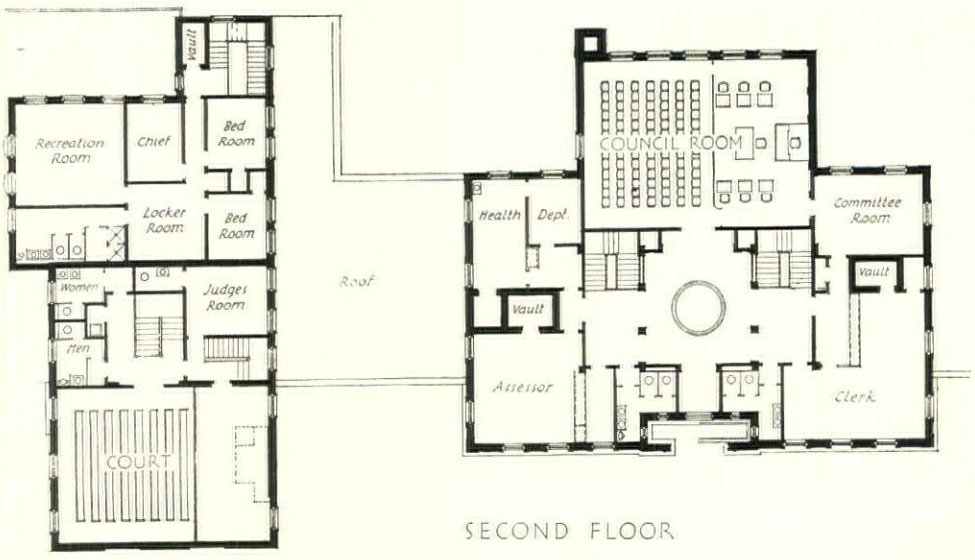


Employing the Italian Renaissance style, not often found in the smaller municipal buildings, the architect for this center has connected two wings, one containing police and fire stations and the other a library, to the town hall in the center

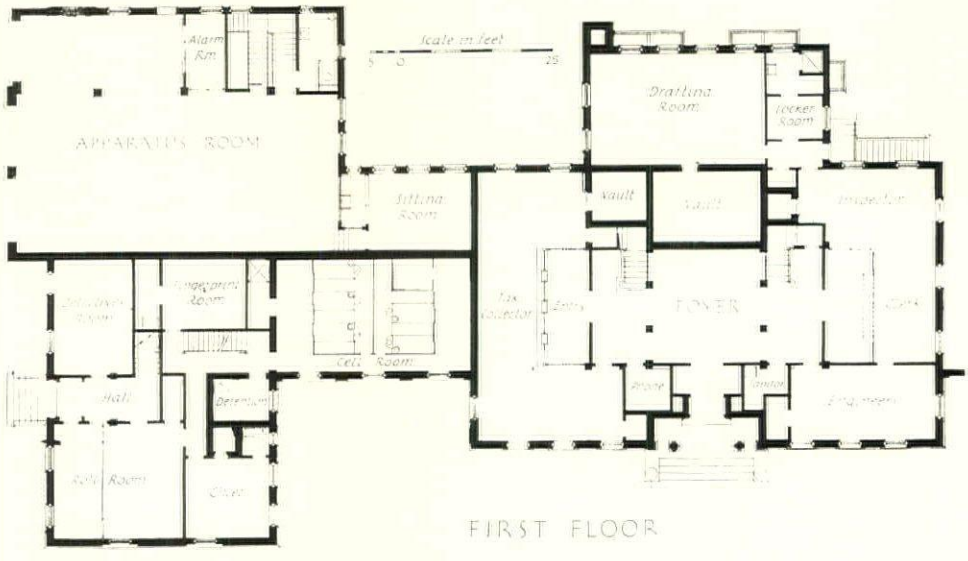
Built of buff colored brick, with stone trim and tile roof, this entrance to the town hall typifies the general design and construction. The entire group cost approximately $750,000

GLEN RIDGE MUNICIPAL BUILDING, GLEN RIDGE, NEW JERSEY

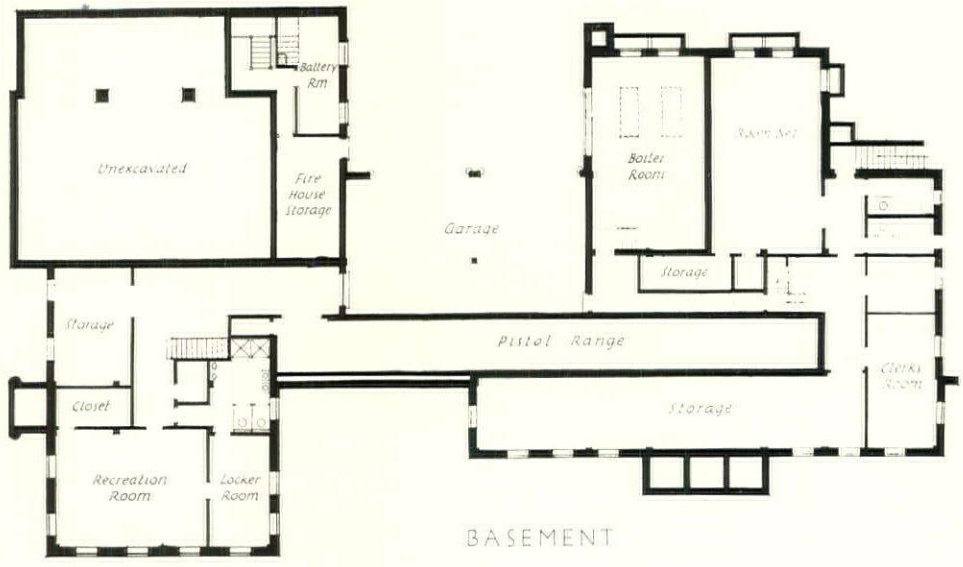
W. ORRIN BARTLETT, ARCHITECT



SECOND FLOOR



FIRST FLOOR



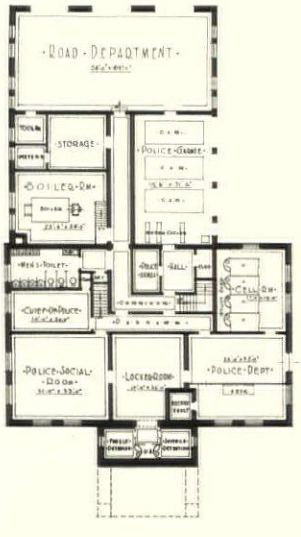
BASEMENT

GLEN RIDGE MUNICIPAL BUILDING, GLEN RIDGE, N. J.

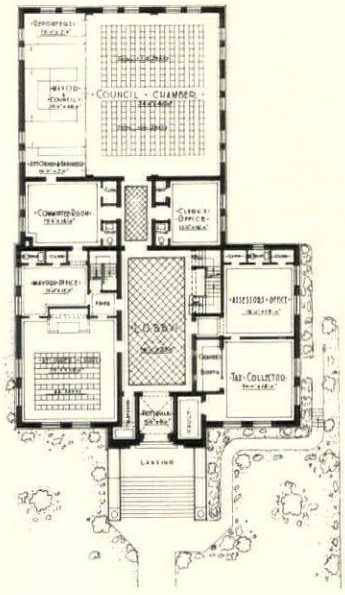


MEMORIAL MUNICIPAL BUILDING, FORT LEE, NEW JERSEY

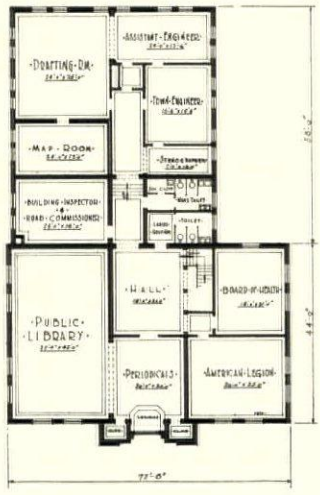
GRANVILLE W. DEXTER, ARCHITECT



BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

POLICE STATIONS

THE functional chart and the following data are based on typical complete police stations, such as are required in a metropolitan area. Smaller communities would of necessity provide the same facilities in smaller sized units or by multi-use of some of the rooms. A word of caution is necessary regarding cells. Prisoners' cells differ greatly depending on the type of criminal and the purpose of the institution. Jails, penitentiaries and reformatories each have cell blocks and rooms very different from those required in the police station.

ADMINISTRATION AND CONTROL FACILITIES

I (a). Desk and Assembly Room. This is the central, active point to and from which all department orders, instructions and information pass. Municipal telephone system, fire alarm system, police patrol and alarm systems are centered at desk which is located on center axis of room. This permits a commanding view of the building's important activities. It should be in easy reach of the street.

The desk to have room for three men: lieutenant or sergeant, telephone and alarm operators. Desk on raised platform, varying from 1 ft. 4 in. to 2 ft. above floor.

As room would be used for patrol assembly it should be large enough to accommodate entire force of patrolmen. Size therefore varies from 500 to 5,000 sq. ft.; allowance made for future growth. Floor usually hard mastic material. Walls and trim of a hard material to withstand rough treatment. Ceiling of acoustical material.

I (b). Police Commissioners (if station is the headquarters). Dignified room. Space for long conference table, desk and cabinets, accommodate entire commission and policemen on trial for infractions of rules; at least 8 sq. ft. per person. Acoustic treatment for ceiling, resilient or carpeted floor; provision for closets, lockers, toilet and lavatory. If individual rooms are needed for commissioners, 200 sq. ft. approximate size per room. Space for desks, locker and closets should be provided.

I (c). Chief of Police Room, 180 to 500 sq. ft., readily accessible to public and desk room; space for large desk, chairs, filing cabinets, etc. As chief of police is ranking officer of department, provide a conference table for meetings with his aides. Resilient floor. Provide closet, locker and toilet facilities.

Captain's, lieutenants' and detectives' offices vary from 150 to 500 sq. ft. Contain desks and chairs for individual officers, filing cabinets; one stenographer for the entire group.

I (d). Secretary's Office and Waiting Room, 80 to 250 sq. ft., as needed; space for desk, filing cabinets; seating for 5 to 12 people waiting for commissioners or chief of police. Floor of hard material to stand rough usage.

I (e). Police Reserve Room, directly connected to assembly room for reserves awaiting orders, enabling assembly immediately. Size varies from 180 to 1,000 sq. ft. Floor, ceiling, walls and trim same as desk room. Provide for exit without passing through desk room.

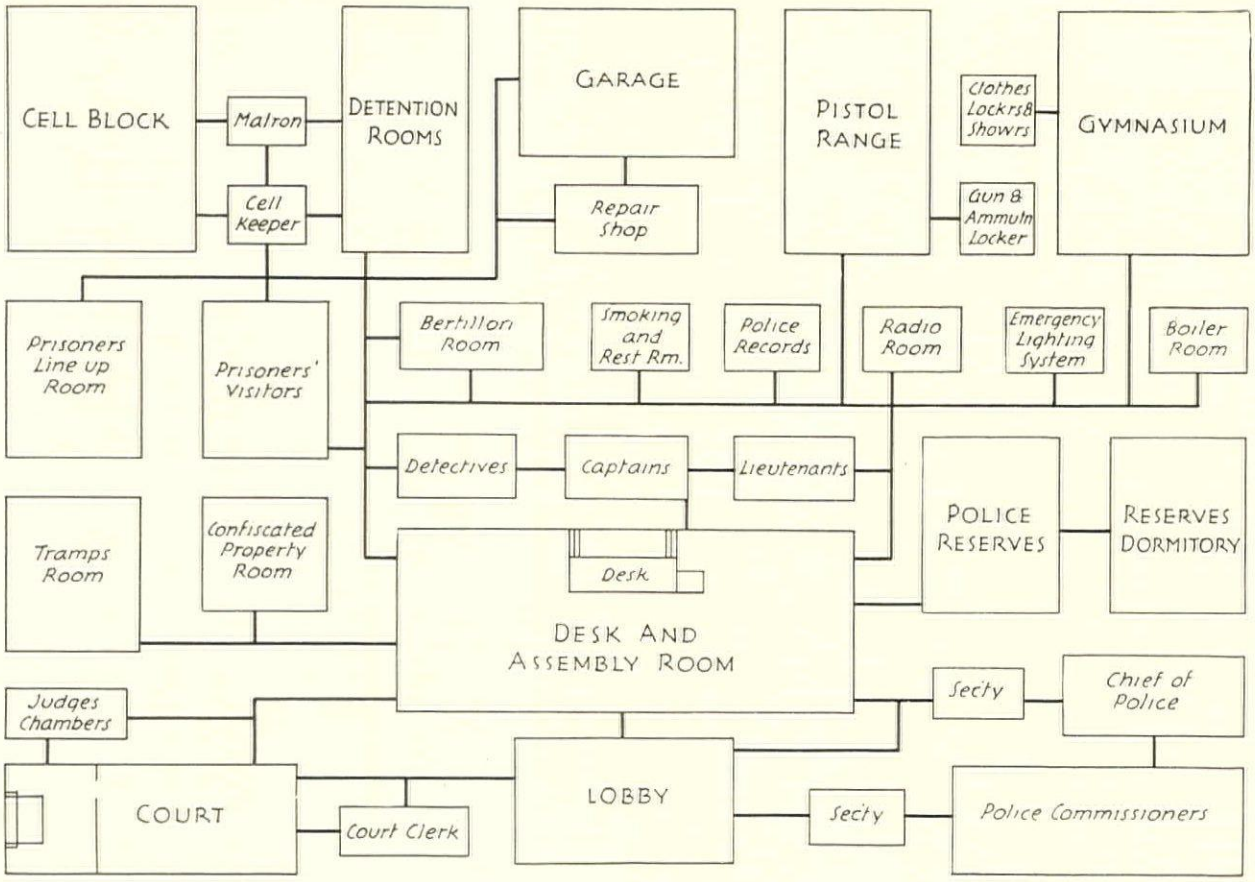
I (f). Reserve Dormitory, directly connected to reserve room, independent of other portions of building. Closets, lockers and toilet accommodations, including showers. Walls, floor, ceiling and trim similar to desk and reserve room. Sizes range from 300 to 2,000 sq. ft.; size could be 50 sq. ft. per man. Connecting the reserve room and dormitory to the assembly room enables desk officer to check outgoing and incoming officers. Smoking and rest room, varies from 180 to 1,500 sq. ft. in size. Used by policemen off duty. Contains reading tables, chairs, lounge, etc. Directly connected with lockers and showers; also ample space for foot baths. Ceiling and walls of hard material and a resilient floor.

I (g). Confiscated Property Vault, in basement; varies from 80 to 200 sq. ft. Entirely fireproof and fitted with vault door and combination lock. Shelving and filing system space with a small desk and chair for custodian. Mechanical ventilation.

I (h). Police Record Room, in basement, entirely fireproof, equipped with vault door and combination lock; varies from 80 to 200 sq. ft. in area. Space for filing and record cabinets important consideration.

I (i). Radio and Teletype Room, should be in direct connection with desk room. Size of this room varies from 80 to 1,000 sq. ft. Space for radio receiving and sending teletype equipment and storage batteries should be provided, as well as desks for three or four operators with city maps. Lockers and toilet accommodations should be provided. Ceiling and walls acoustic material.

I (j). Gymnasium containing from 400 to 5,000 sq. ft. is desirable; provision should be made for boxing, fencing, handball, basket ball, wrestling and police calisthenics; also provisions in ceiling and walls for equipment. Hardwood floor with metal



FUNCTIONAL CHART FOR POLICE STATIONS

base. Ceiling and walls should be of hard material and have mechanical ventilation. Directly connected to gymnasium accommodation for lockers, showers and toilets.

I (k). Pistol Range, in basement; not under important rooms as court or desk rooms because of noise. Should be at best 100 ft. in length and area would range from 600 to 5,000 sq. ft. At least 6 ft. in width per man using range. Shooting bench provided entire width of room with exception of opening 5 ft. wide as entry to gallery for cleaning purposes. Targets should have electrically controlled truck which allows target to be brought back for renewal by man shooting. Exhaust ventilation at shooting end; target and gravity ventilation with bulletproof grilles. Walls and ceiling concrete or cement; same for floor. Directly off gallery provide gun and ammunition locker; fireproof and burglarproof.

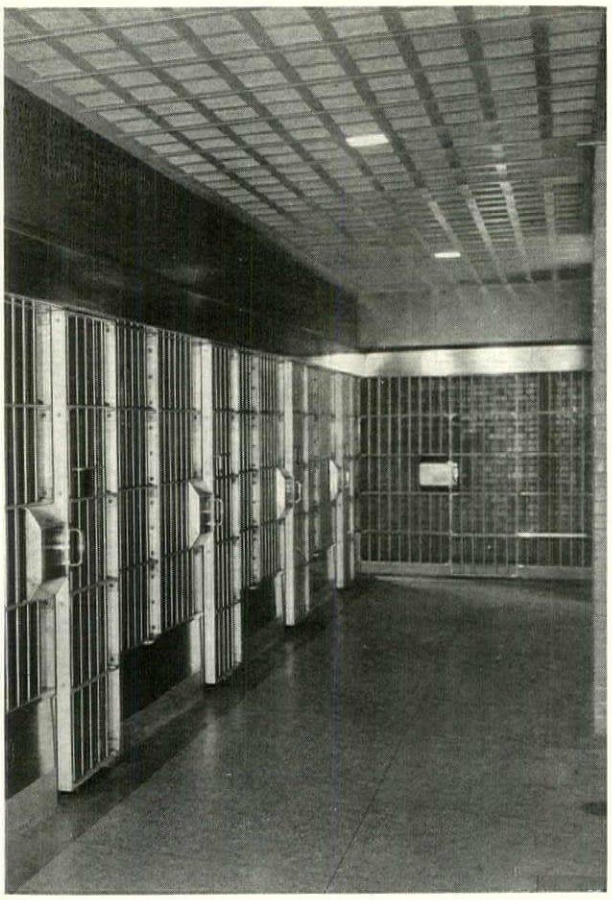
I (1). Garage, located direct from street and patrol entrance of building. Size varies from 400 to 3,000 sq. ft., dependent on equipment. Space for desk attendant, washing equipment, oil and gas tanks, motorcycles, etc. Constructed of fireproof material; floor of concrete or cement. Doors would be automatic.

I (m). Repair Shop, directly off garage; approximately 200 sq. ft.; should have space for work bench, tool racks, lathes, etc., for repairing cars; a pit 3 x 10 ft. very desirable for draining oil, undercar repairs, etc. A portable electric air pump near garage entrance for tires, spring spraying, etc.

PRISONER DETENTION

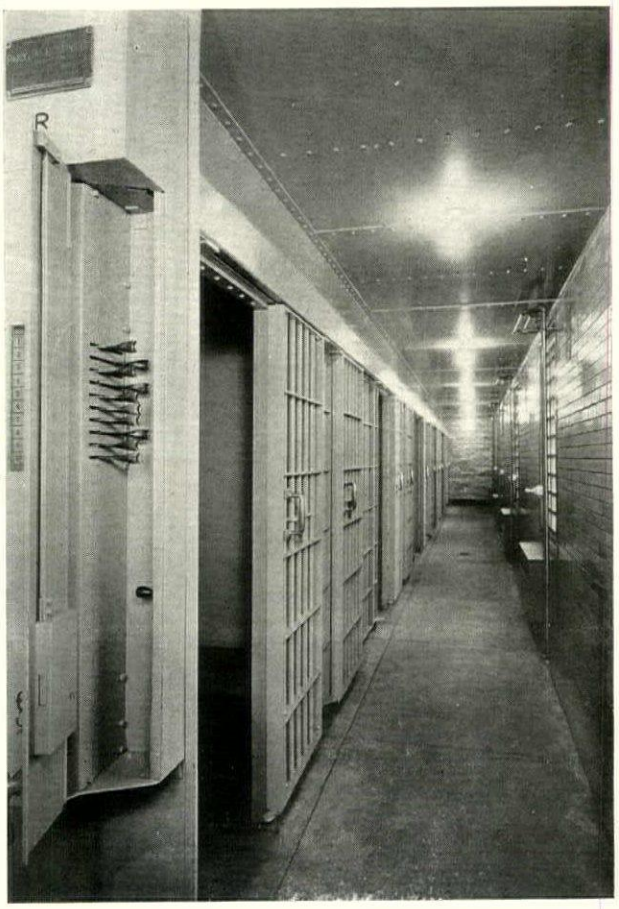
II (a). Detention Rooms, requiring from 100 sq. ft. up; space divided into small rooms about 7 x 10 ft. Not to be cells but waiting rooms for confining witnesses, suspected or convicted persons. Space for attendant's desk. Window and door protection necessary. Each detention room should contain cot, chair and small table. Walls and ceiling of hard material and floors of a hard mastic. Rooms might well be entirely soundproof. Waiting room for relations or friends.

II (b). Interviewing Room, requires from 100 to 1,000 sq. ft., divided into public and prisoners' section by steel partitions pierced through and covered with bars and screen; allow 6 ft. width for each visitor and prisoner. Space for attendant and chairs for visitors should be provided. Prisoners' section should have steel bar door securely locked to prevent escape, etc. Ceiling and walls of hard acoustic material and floor of hard mastic material for hard usage.



Courtesy, Pauly Jail Bldg. Co.

Cell corridor in police station, St. Louis, Mo. It has been finished in stainless steel, glazed brick walls, terrazzo floor and acoustical ceiling. The latter treatment, experimental for this type of work, has proved entirely satisfactory



Cell corridor in police station, Albany, N. Y. With floor of concrete, riveted steel ceiling and glazed brick walls, this corridor is in accordance with good safety and sanitary practice. Remote control levers for cells may be seen at left

II (c). Cell Block, varies from 100 to 2,000 sq. ft.; should be a wing with at least two outside walls and independent roof; a strong masonry building with concrete floors, sanitary bases and corners. Inside this block are placed the groups of cells. Each group approximately 6 x 8 ft., containing one toilet and combination lavatory and drinking fountain. All plumbing traps and mechanism should be kept outside cells. Provision should be made for exercise corridor, guard space. Doors for entrance should be constructed so that view of block can be had before entry.

II (d). Bertillon Room, in which prisoners have their physical status taken; varies from 100 sq. ft. to 1,000 sq. ft. Provide platform, scales and photographer's equipment; directly connecting, a dark room for developing of photographs; containing sink and trays. Walls should be of glazed material to offset acid and for ease in cleaning. Space in main room for desk, fingerprinting, etc. Space for filing cabinets, index features and attendant should be provided. Walls and ceiling hard material and floor of hard mastic material to offset rough usage. Mechanical ventilation.

II (e). Line-up Room, varies from 100 to 1,000 sq. ft., as to number of force, allowing 10 sq. ft. per officer; room to be in direct line with desk and cell block. Space for platform 3 ft. above floor, stenographer's desk, reporter's desk and seats for detectives should be provided; also a pedestal for questioning officer. Provision should be made for installing loud-speakers throughout room. Walls and ceiling to have acoustic treatment and floor of hard mastic material to offset hard and excessive usage.

II (f). Tramp Room, or dormitory (in basement) varies from 80 to 200 sq. ft. in size; contains hardwood wall benches. Concrete floor, cement plaster walls and ceiling, bare and simple. Mechanical ventilation furnishes at least 2½ cu. ft. of air per square foot of floor area.

II (g). Matron and Keepers' Rooms, about 150 sq. ft.; should be provided with space for desk, chair and lockers. Walls and ceiling of hard material; floor of hard mastic material.



HOLLYWOOD POLICE STATION AND BRANCH HOSPITAL,
HOLLYWOOD, CALIFORNIA
BOARD OF PUBLIC WORKS, LOS ANGELES COUNTY

POLICE COURT

III (a). Lobby sufficient to avoid overcrowding. Floor hard material for rough treatment. Walls and finish hard, durable, easily cleaned.

III (a–1). Police Court, police administration space 10 to 15 ft. depth, full width of room; judge's rostum 1 ft. 4 in. to 2 ft. above floor. Administrative space and public space divided by railing 3 ft. high. Benches for public 8 sq. ft. per person. Floor hard resilient material. Acoustic material on walls and ceiling. Mechanical ventilation six changes per hour supply, five changes per hour exhaust.

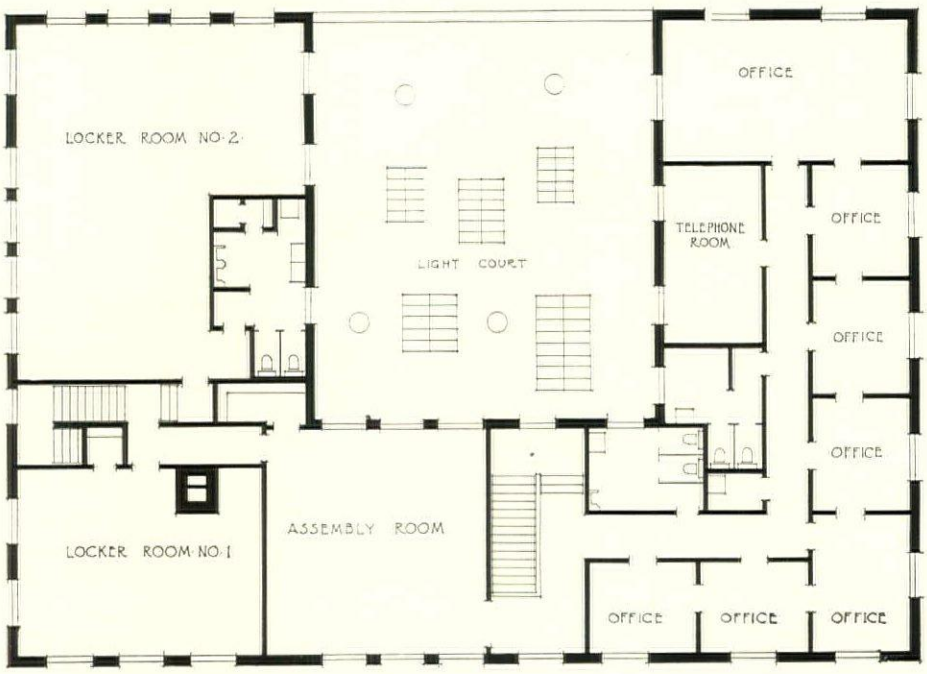
III (b). Court Clerk's Room, 150 to 500 sq. ft., as needed. Accommodate clerk's desk, stenographer's desk; space for 10 to 20 people who use room paying fines, minor infractions, etc., avoiding overcrowding police court. Located end of corridor; if necessary, use approach as waiting space, avoiding interference with active portion of building. Floor hard, durable; ceiling and walls plastered.

III (c). Judge's Chamber, 180 to 500 sq. ft. Provide accommodations for closets, lockers, toilet facilities. Floor of resilient material.

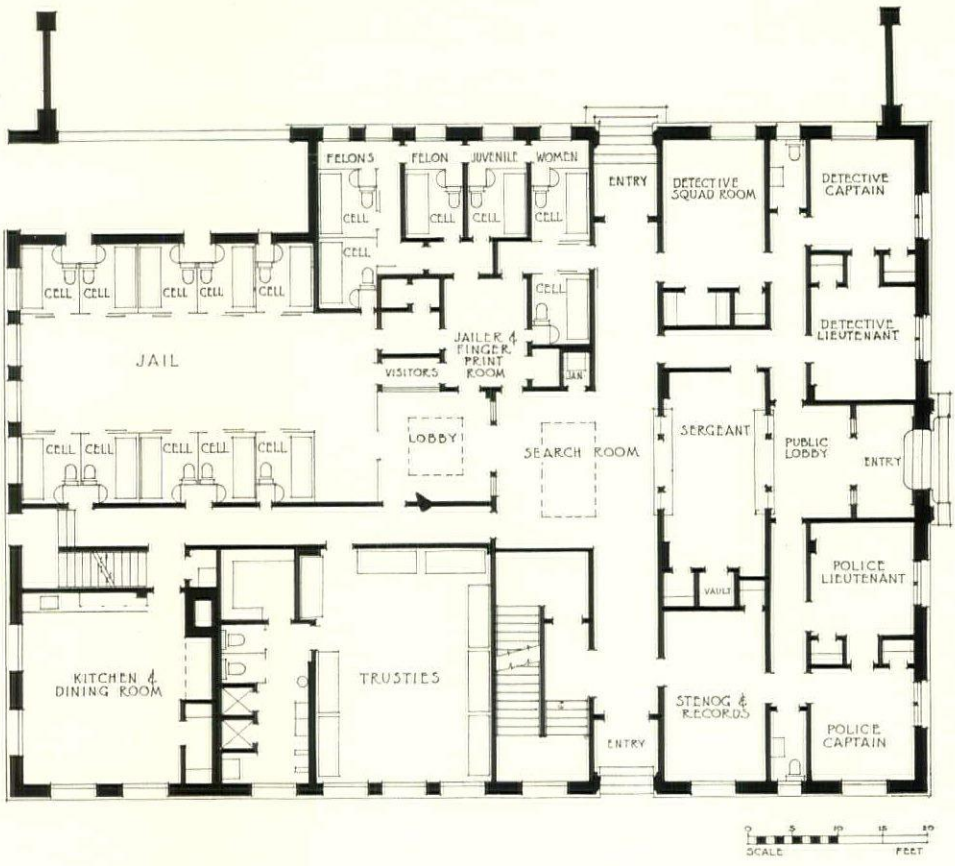
UTILITIES

IV (a). Boiler Room, entirely fireproof. Size to be at least 5 per cent of entire floor area of building. Located near exterior entrance for removal of ashes if coal is used. Coal space to be provided with sidewalk chute. Layout of boilers, hot water tanks, heaters and, if necessary, pumps and motors; should be readily accessible to building engineer. Space for small work bench, etc.

IV (b). Emergency Lighting System necessary because of danger of total darkness and isolation by power failure, especially for the active departments, such as the cell block, tramp room or detention room. Space for storage batteries for telephones, alarms and lighting. Mechanical ventilation with powerful exhaust feature withdrawing gases created by batteries. Space for generator and motor. Spare parts and repair bench accommodations needed.



SECOND FLOOR PLAN



FIRST FLOOR PLAN

HOLLYWOOD POLICE STATION, HOLLYWOOD, CALIFORNIA

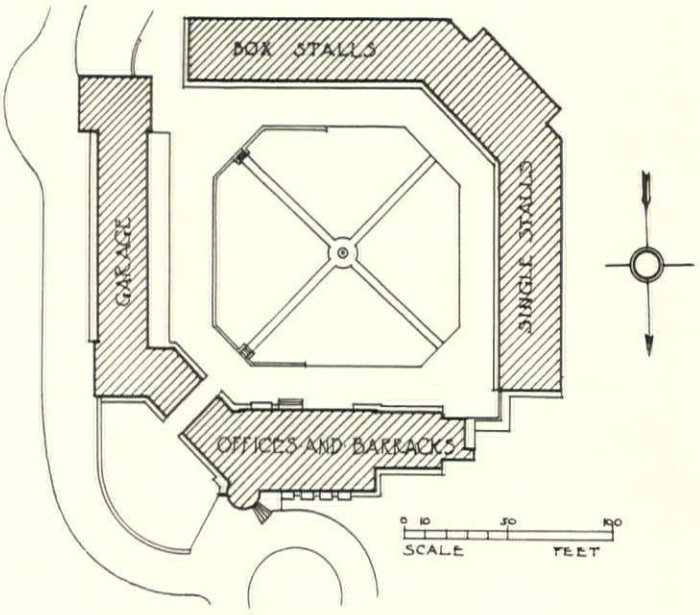
BOARD OF PUBLIC WORKS, LOS ANGELES COUNTY



OFFICES AND BARRACKS

TROOP K BARRACKS, VALHALLA, NEW YORK

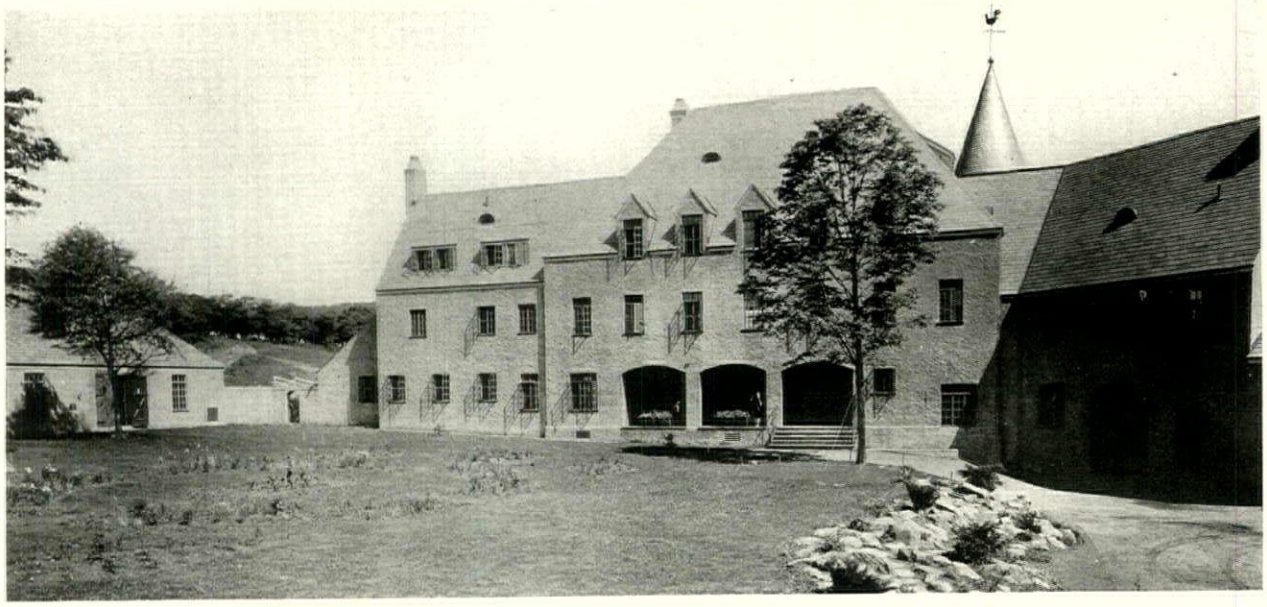
WILLIAM E. HAUGAARD, STATE ARCHITECT



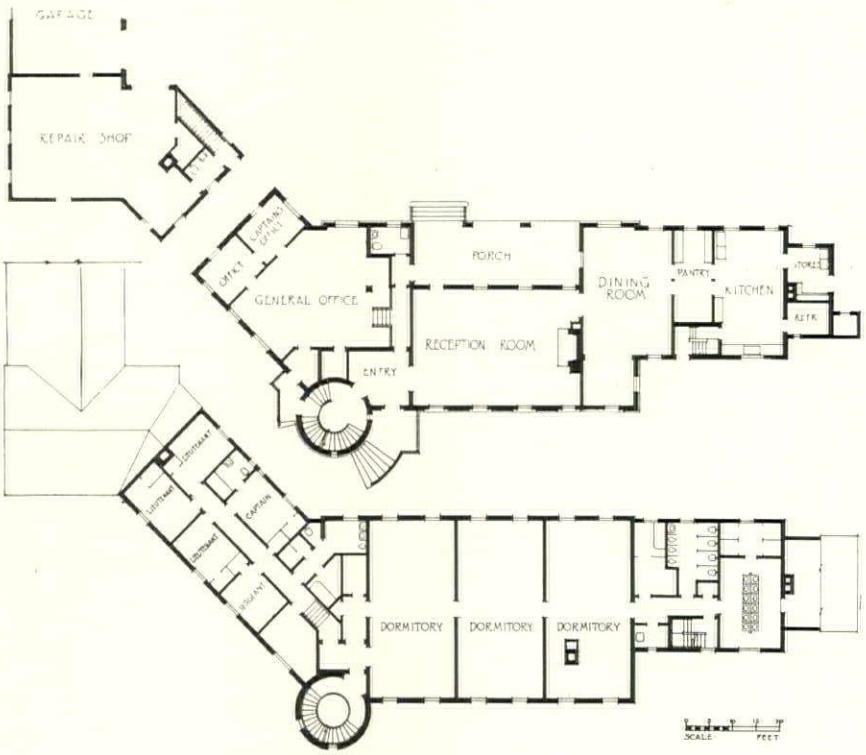
PLOT PLAN



VIEW ACROSS QUADRANGLE



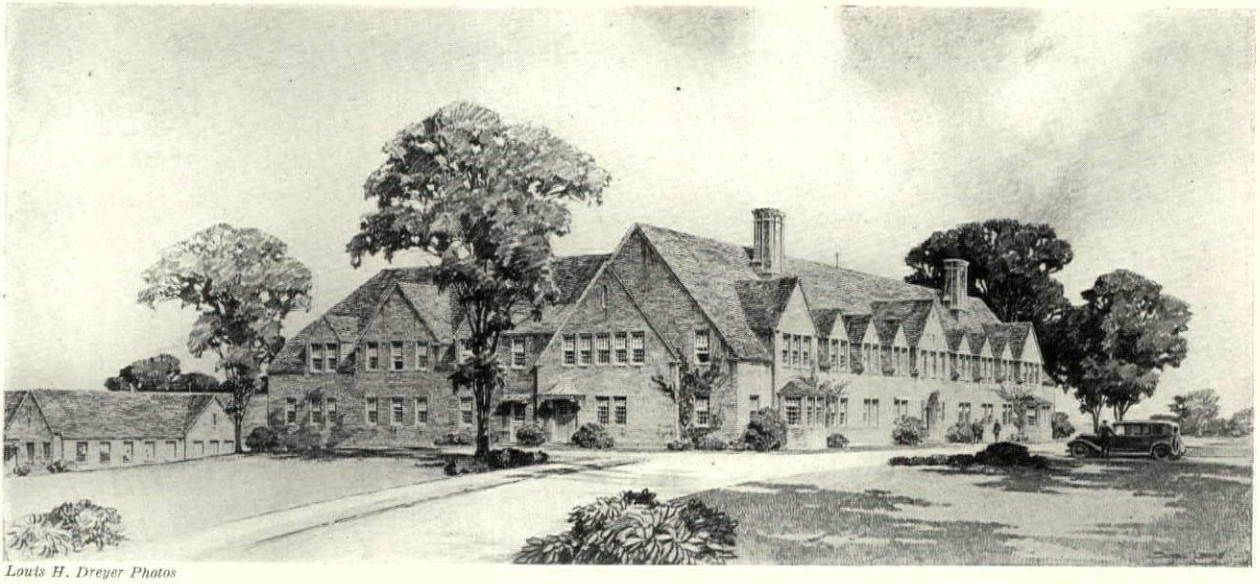
LIVING QUARTERS, FROM THE COURT



Designed around a center court, this State Police Barracks unifies all the various elements, such as garages, stables, offices and barracks, into one architectural ensemble. Landscaping, now being completed, will add the required softness of line without destroying the masculinity of the design

TROOP K BARRACKS, VALHALLA, NEW YORK

WILLIAM E. HAUGAARD, STATE ARCHITECT



Louis H. Dreyer Photos



Penologists have long advocated reformatory school buildings that have no suggestion of prison austerity about them. This one, now under construction, follows along the line of their recommendations. It is even less confining in plan and atmosphere than the minimum security type of prison that is regarded as a significant step forward in prison reform. Choosing the English cottage type of architecture, which is often employed where duplication of plan units is desirable, the architect for this reform school has evolved a group of buildings that are both homelike and easily superintended

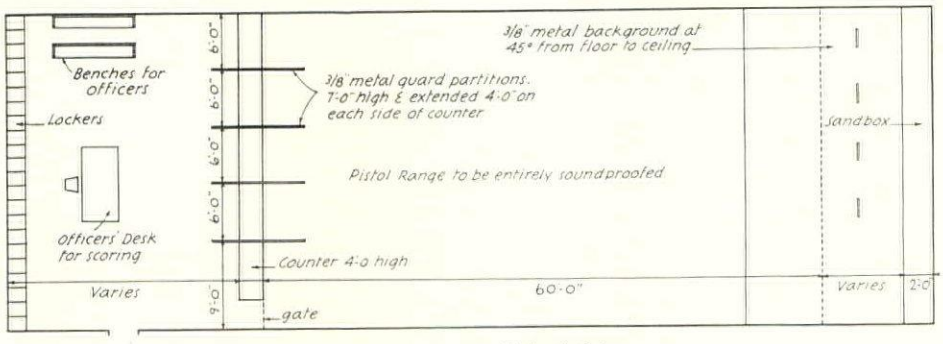
NEW YORK STATE TRAINING SCHOOL FOR BOYS

WARWICK, NEW YORK

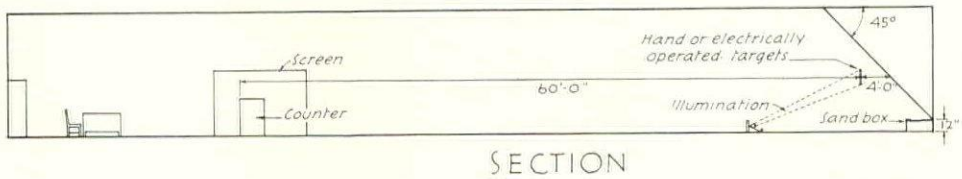
WILLIAM E. HAUGAARD, STATE ARCHITECT

POLICE STATION DETAILS

DETAILS of PISTOL RANGE

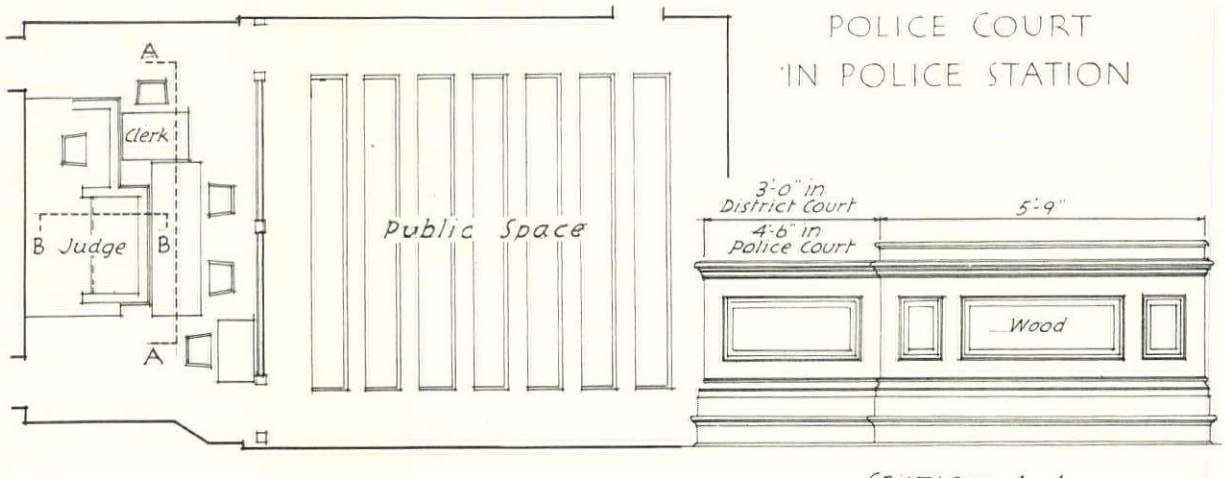


PLAN



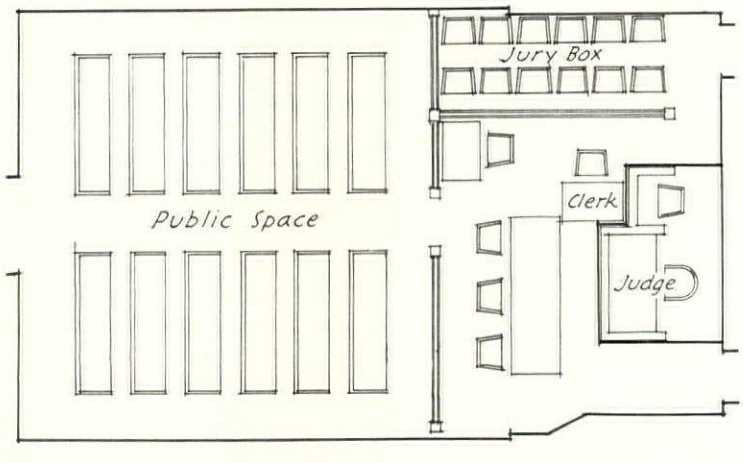
SECTION

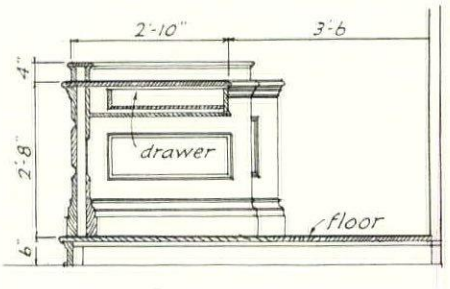
POLICE COURT IN POLICE STATION



SECTION A-A

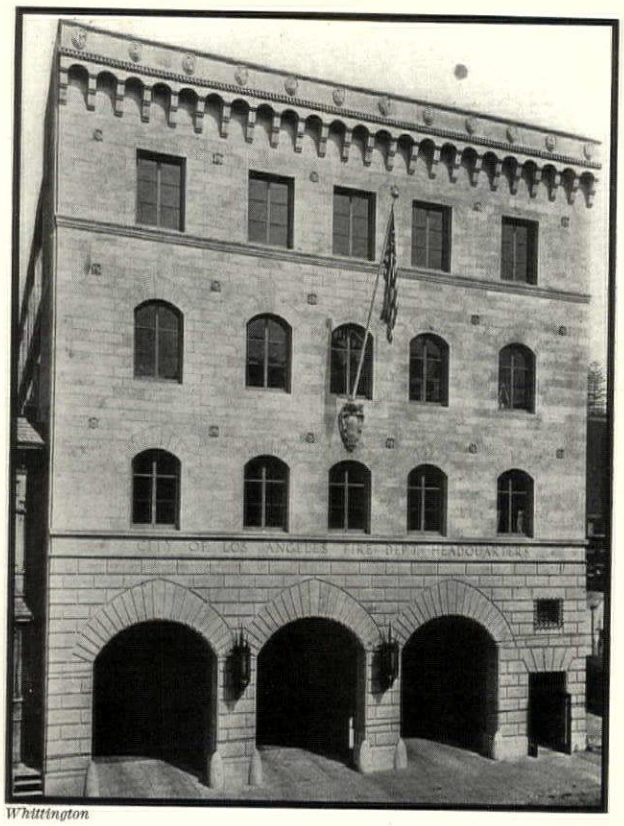
Scale in Feet
5 0 10





SECTION B-B

DISTRICT COURT IN POLICE STATION



Whittington

FIRE DEPARTMENT HEADQUARTERS, LOS ANGELES, CALIF.
Randolph Meier, Architect

FIRE STATIONS

NATURALLY the fire station building will vary in its requirements and construction according to the size of the community and the type of fire-fighting company. A wholly volunteer brigade may need only a shelter for one piece of apparatus or may provide accommodations for one paid fireman-driver of a combination pumper-truck. As a social organization the fire company frequently has its club room on the second floor, with kitchen and services. Frequently the fire house is a part of the town hall. The chart and the data below are equally applicable in such cases as in the separate metropolitan station.

Apparatus Room. This room must be clear without posts or other obstructions.

Dimensions: One combination pumper-truck will require a room approximately 16 x 32 ft. (Obtain from city fire chief dimensions of trucks selected.)

A two-truck combination pumper and hose truck will require a room approximately 30 x 40 ft. or 20 x 70 ft.

A hook and ladder truck (removable hand-raised ladder) will require a room 20 x 50 ft., or if combined with a pumper, 30 x 50 ft.

A hook and ladder aerial truck (tractor-drawn type, six wheels) will require a room approximately 20 x 75 ft.; if combined with a pumper, 30 x 75 ft.

Wall finish usually of salt-glazed terra cotta block, salt-glazed brick, enameled brick or glazed tile.

Ceiling shall be plastered or painted concrete and not less than 13 ft. above floor.

Apparatus floor constructed of concrete, cement finish and pitched to drains.

Main Opening Doors, usually of steel, 12 ft. high, 18 ft. minimum width, 4 sliding panels, or special.

Smaller openings for trucks or cars not less than 11 ft. wide, 12 ft. high, two sliding panels.

Doors may be manually or electrically operated and controlled by switches on patrol desk. The switch plate shall have three push buttons, 1-close, 2-open, 3-stop on emergency. A door-operating push button on each jamb of main opening and a pull chain on the ceiling above driver's head.

A wicket or access door, 2 ft. 6 in. x 7 ft., should be provided in one of the door panels unless other small door is provided.

Patrol Desk, for the man on watch duty, is located at one side of main apparatus doors on a concrete platform, 4 ft. wide, 7 ft. long and 6 in. above apparatus floor, railed off with a brass railing having a swing gate. The desk is usually of steel. Two steel files, an assignment card file and a special building card file are provided on the desk. A telephone, a gooseneck electric light standard and an electric clock are also provided.

The Station Board and Instrument Case. This equipment consists of an alarm box directory, alarm gongs, call bells, light switches, black board and an electric clock. Minimum dimension for station board is 7 ft. wide, 4 ft. high, large size 8 ft. 9 in. wide, 8 ft. 8 in. high, mounted on wall alongside of patrol desk. Bottom rail of board is 3 ft. 11 in. from apparatus floor.

Sliding Poles, at convenient location, 2½ in. seamless brass tubing over rigid steel tubing; where pole comes through floor, doors shall be provided — or poles may be enclosed in a shaft with doors at bottom swinging out. And there shall be a good live rubber mat 2 in. thick, 20 in. in diameter at base of pole.

ADJACENT ROOMS

Alarm Room. Many chiefs find it more desirable for the station board and instrument case to be in a room on the apparatus floor. Here as above are the alarm gongs, call bells, light switches, alarm recording register, take-up reel, telephone, a 50- to 100-wheel alarm transmitter (for small communities) or a switchboard (for large communities); also an electric time clock.

Office, used by the chief or captain and lieutenant as a general office; minimum area 150 sq. ft.; dignified; simply treated with plaster walls and ceiling; indestructible base and resilient floors. Walls usually painted. Room accommodates two desks and a few chairs for visitors; also a desk for the typewriter.

Hose Drying Rack or Tower. Horizontal hose drying racks accommodate a full length of hose. The rack may be one or two tiers high. One tier hose rack is 52 ft. long, 3 to 4 ft. wide, 3 ft. high at one end and sloping to within 1 ft. of floor. A two-tier rack is 27 ft. long, top tier longer than bottom sloping in one direction, same width as above. Hose drying tower may be as small as 12 sq. ft. but a modern standard tower is 3 ft. 8 in. wide, 8 ft. long, 6 ft. high. Construction usually masonry enclosed and fireproof, large Kalamein doors 7 ft. 9 in. high on apparatus floor.

Repair Shop may be a separate building for large departments although minor repairs may be made on the apparatus floor. A small room may be provided for repairs either in the apparatus floor level or in the basement.

When the apparatus room is used for repairs or if there is not enough cross ventilation, provide a flexible tube which is connected to exhaust pipe of the engine and to a floor outlet from which carbon monoxide gases are pumped outside the building.

Clothes Drying Room, on the apparatus floor or in the basement; approximately 200 sq. ft., for cleaning, drying and pressing uniforms when men return from fires; equipped with gas driers, ironing boards, etc. Toilet and lavatory necessary on ground floor.

Supply and Oil Room, for storing general supplies for cleaning, brooms, mops, pails; also lubricating oil containers, etc.

Gasoline Pump, on the apparatus floor, conveniently located. Gasoline tank with a minimum capacity of 275 gallons, outside of building, below ground, with gauge in a convenient point inside of building.

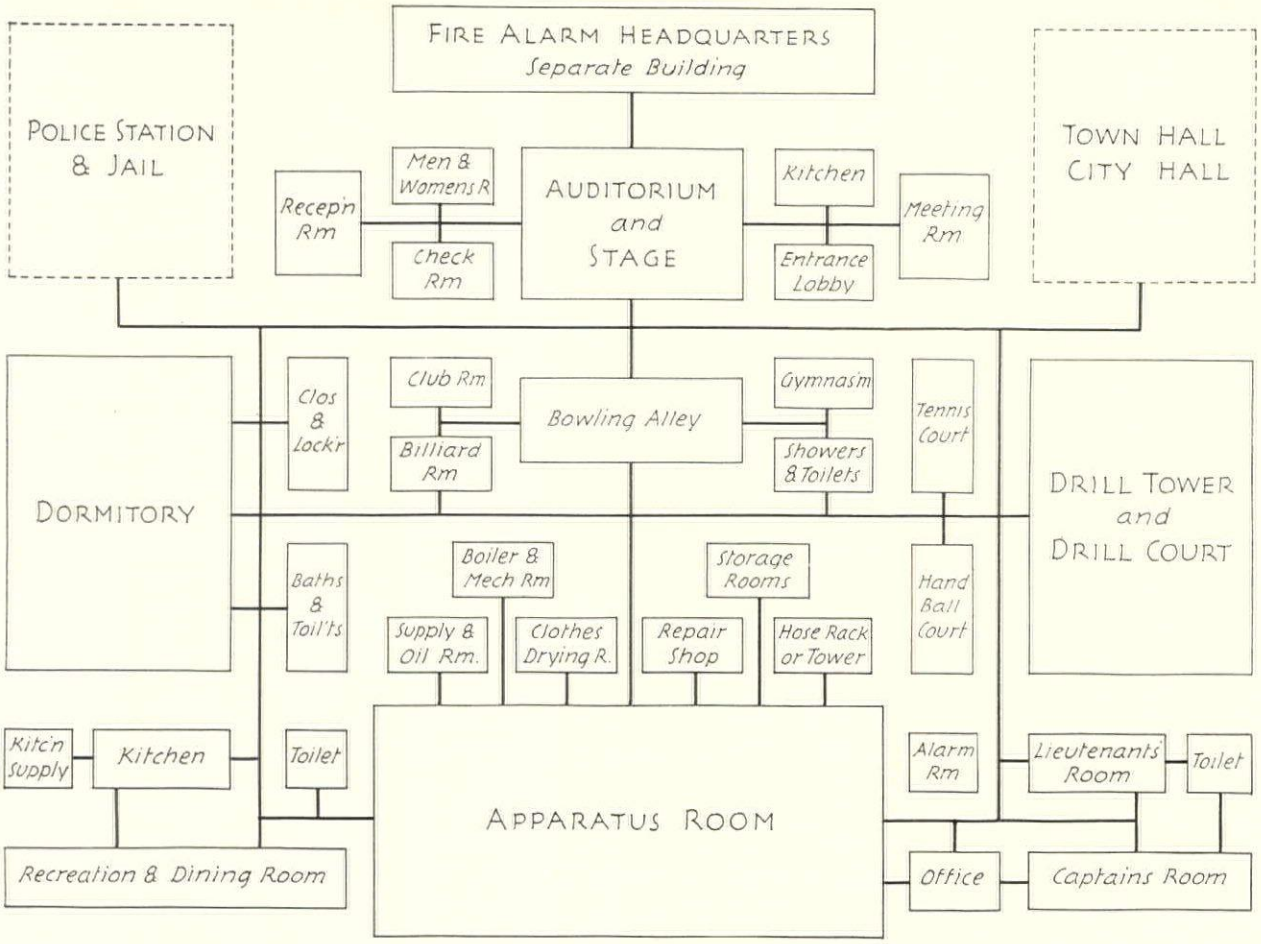
Hot and cold water faucets at convenient locations on wall of apparatus room, front and rear. Stalls, shelves and hooks for slickers, coats, helmets and boots.

FIREMEN'S QUARTERS

Recreation Room, Dining Room. May be combination or individual rooms, depending upon circumstances of the building committee. Size depends on number of firemen in company. Simple in design; provided with a fireplace; accommodates substantial furnishings, tables, chairs, piano, radio, etc.

Kitchen. Usual ranges, refrigerator, dressers and cupboards, sinks, table and chairs. Walls tiled or painted, sanitary base, resilient floor.

Supply Room or Pantry. Dressers and cupboards, storage for dishes and supplies.



FUNCTIONAL CHART FOR FIRE STATIONS

Captain's and Lieutenant's Rooms, area 150 to 180 sq. ft., bath adjoining; closet in each room; second floor.

Dormitory, for resident firemen, second floor, equipped with simple metal cots and lockers and linen closets; allow 60 sq. ft. minimum to 120 sq. ft. per man; plaster walls and ceiling, painted; cement base; resilient floor. A standard steel locker 30 in. deep, 24 in. wide, 6 ft. 5 in. high, containing a drawer, shelf and hooks may be placed in dormitory alongside of cot or in center of room back to back. Dressing room, with individual lockers, may be arranged allowing 25 to 35 sq. ft. per man instead of dormitory lockers.

Toilet and Wash Room, tiled walls and floors and plaster ceiling; ceiling enameled; equipped with w.c.'s, lavatories and showers. Minimum standards in use by the New York Fire Department: 6 men to one w.c.; 4 men to one lavatory; 7 men to one shower. Bath tubs and urinals are not used in the New York City Fire Department.

Boiler, Mechanical and Fuel Rooms, located in basement, occupy approximately 5 per cent of floor area in building. The boiler room shall have a boiler, hot water heater, hot water tank and electric blower and sink; usual fuel room, coal storage or oil tanks.

Storage Room, in basement, for storing equipment, hose machinery, tools, etc.

RECREATION FACILITIES

Recreation Room, approximately 400 sq. ft. minimum area, clublike, with a fireplace and well furnished. More recreation facilities, depending upon the community served and the budget.

Added features for recreation may include:

a. *Gymnasium,* approximately 30 x 40 ft. minimum; high ceiling desirable. A standard calisthenics gymnasium is approximately 60 x 85 x 20 ft.

b. *Bowling Alley,* in basement, standard size for a double alley, 14 ft. 6 in. x 95 ft.; includes space for congregating. (Alley plus pit, 78 ft. long.)

c. *Billiard Room,* 15 x 25 ft., minimum; includes space for spectators.

d. *Tennis Court.* A standard minimum size court for singles and doubles is 60 x 120; this includes space all around the play portion.

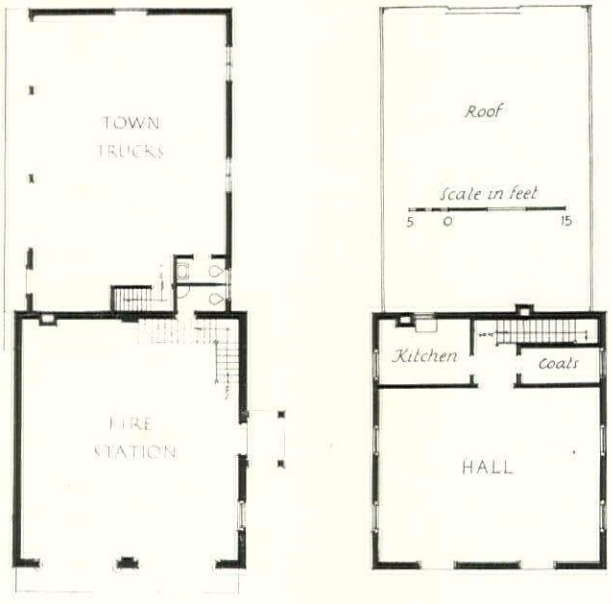
e. *Hand Ball Court.* Usually outdoors. A standard one-wall court 46 x 22 ft.



WASHINGTON FIRE STATION

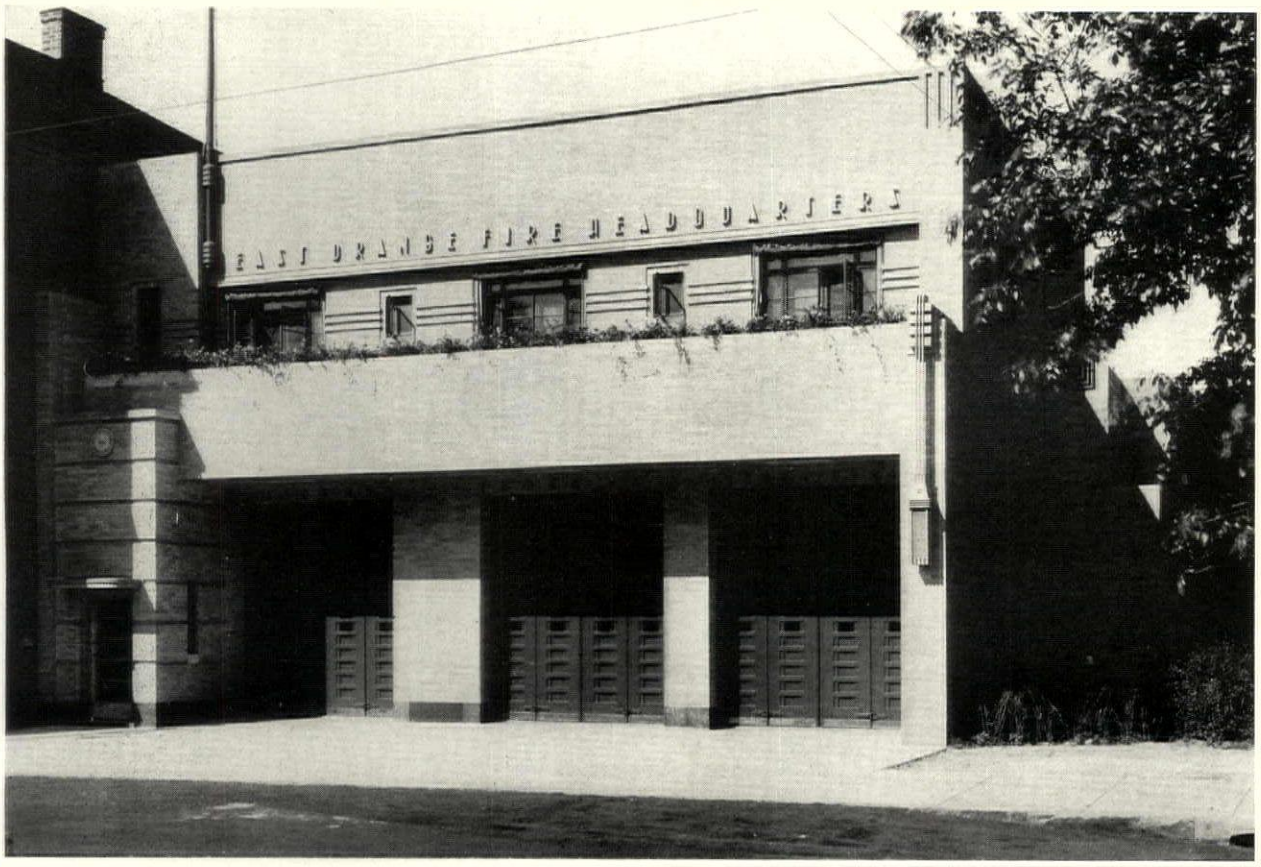
WASHINGTON, CONNECTICUT

CAMERON CLARK, ARCHITECT

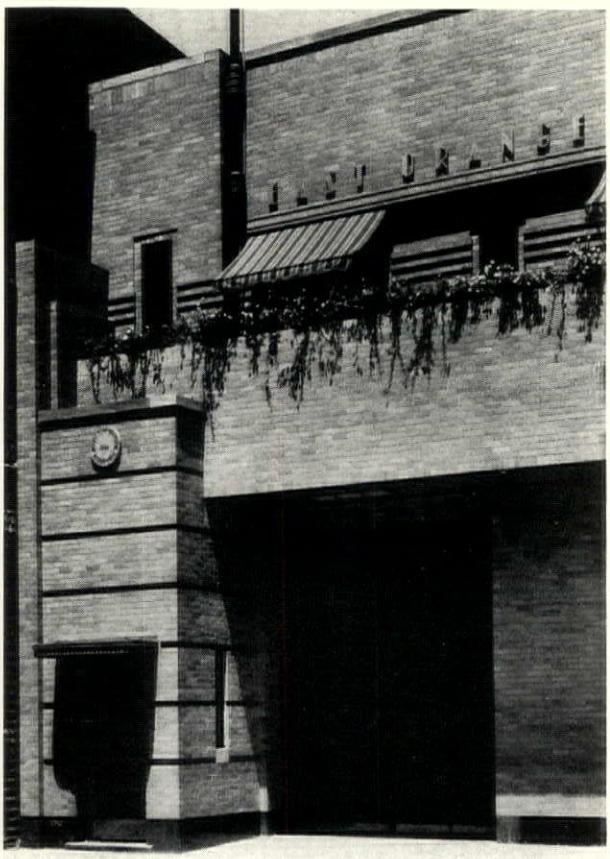


FIRST FLOOR SECOND FLOOR

In keeping with the general architectural character of other public buildings in the community, this fire station represents a successful solution of the often recurring problem of supplying a distinguished building at a minimum cost. Built of brick, with shingle roof and white painted wood trim, its plan is simple and yet adequate



The design of this suburban fire station suggests modern Swedish architecture in its severe lines and simple detail. Faced with light tan brick, the building is of fireproof construction, with brick bearing walls, steel and concrete floor construction and pile foundations. Copings and sills are sandstone, base red granite, and all exterior metal trim green bronze



EAST ORANGE FIRE HEADQUARTERS

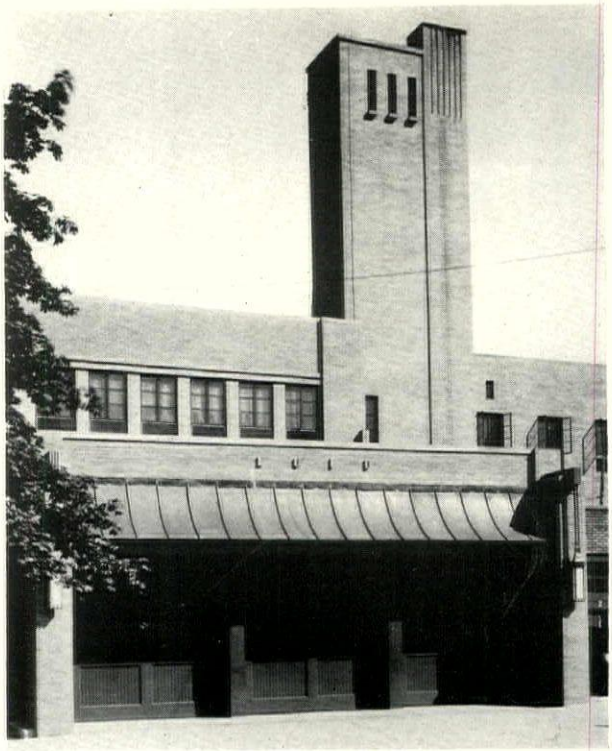
EAST ORANGE, NEW JERSEY

W. FRANK BOWER, JR., ARCHITECT

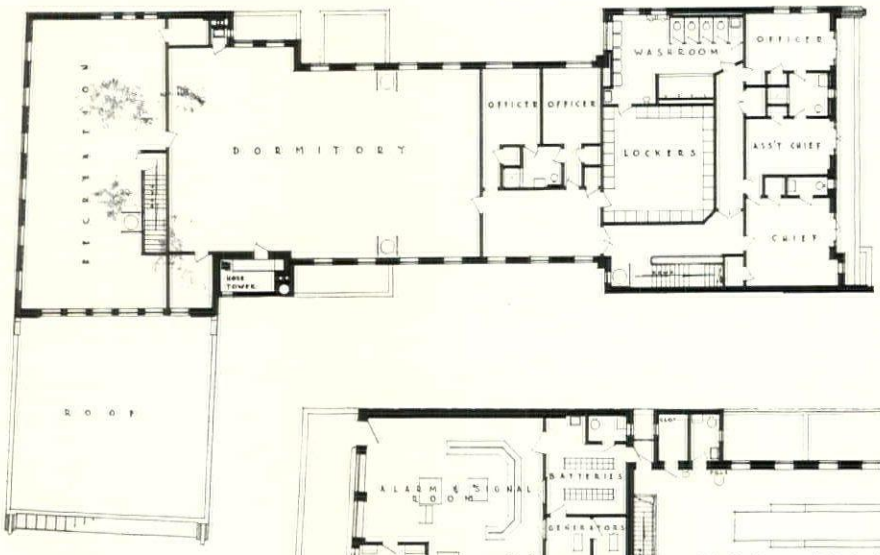
EAST ORANGE FIRE HEADQUARTERS

EAST ORANGE, NEW JERSEY

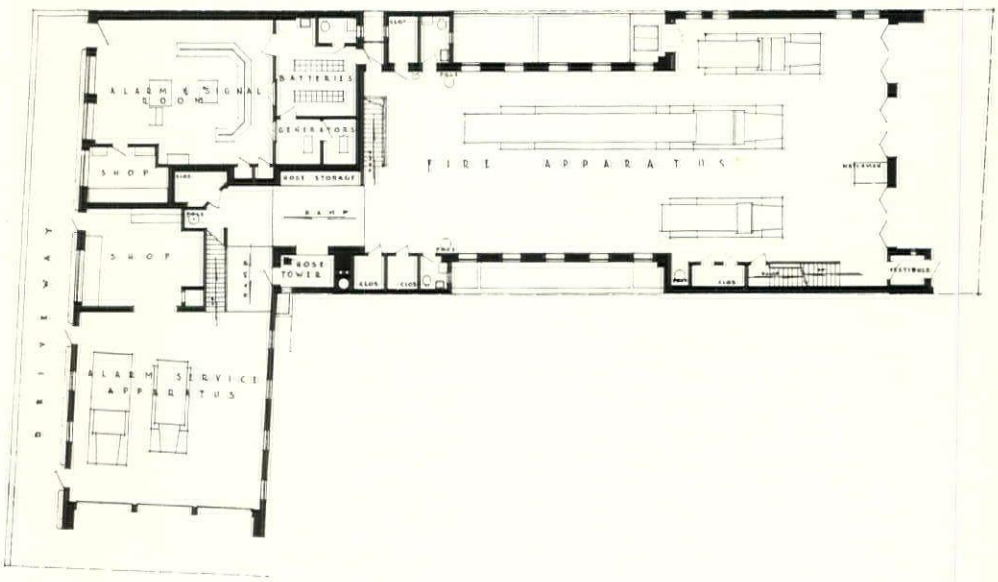
W. FRANK BOWER, JR., ARCHITECT



Exclusive of piling and fees, the building cost about $140,000, or 47 cents per cu. ft. for 294,000 cu. ft. It houses a rescue squad, engine company, aerial truck, two automobiles, two alarm service trucks, facilities for drying and storing hose (in the tower) and living and sleeping quarters for three companies. Switchboard, generators, etc., are separated from other portions of the building by an unpierced fire wall



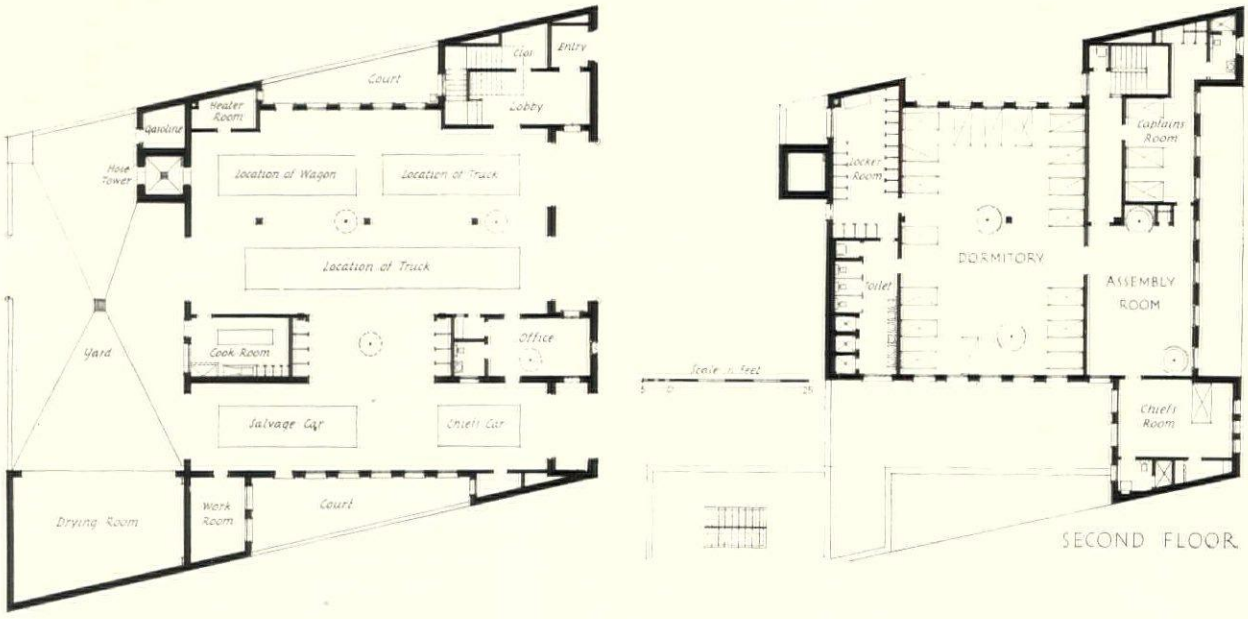
SECOND FLOOR



FIRST FLOOR



Whittington



The flexible California style is here happily adapted to a small fire station. It is of fireproof construction, with walls of common brick and stucco exterior. The roof is of Granada tile laid in white mortar. Doors and windows are wood

RESIDENTIAL DISTRICT FIRE STATION

LOS ANGELES, CALIFORNIA

LOS ANGELES BOARD OF PUBLIC WORKS

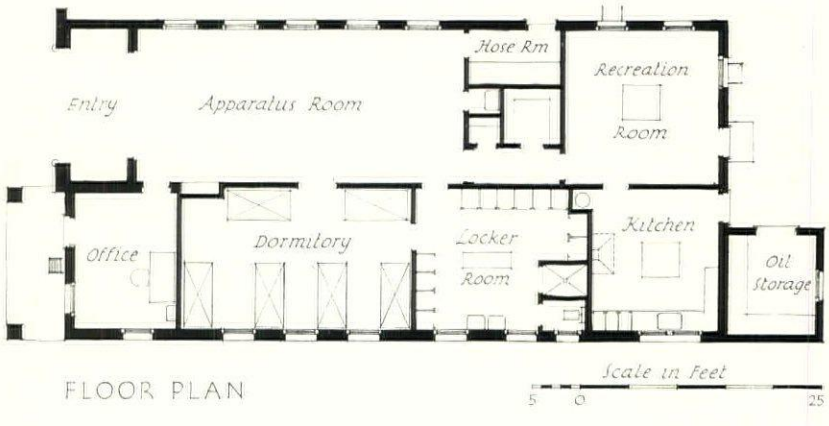


BELVEDERE FIRE STATION

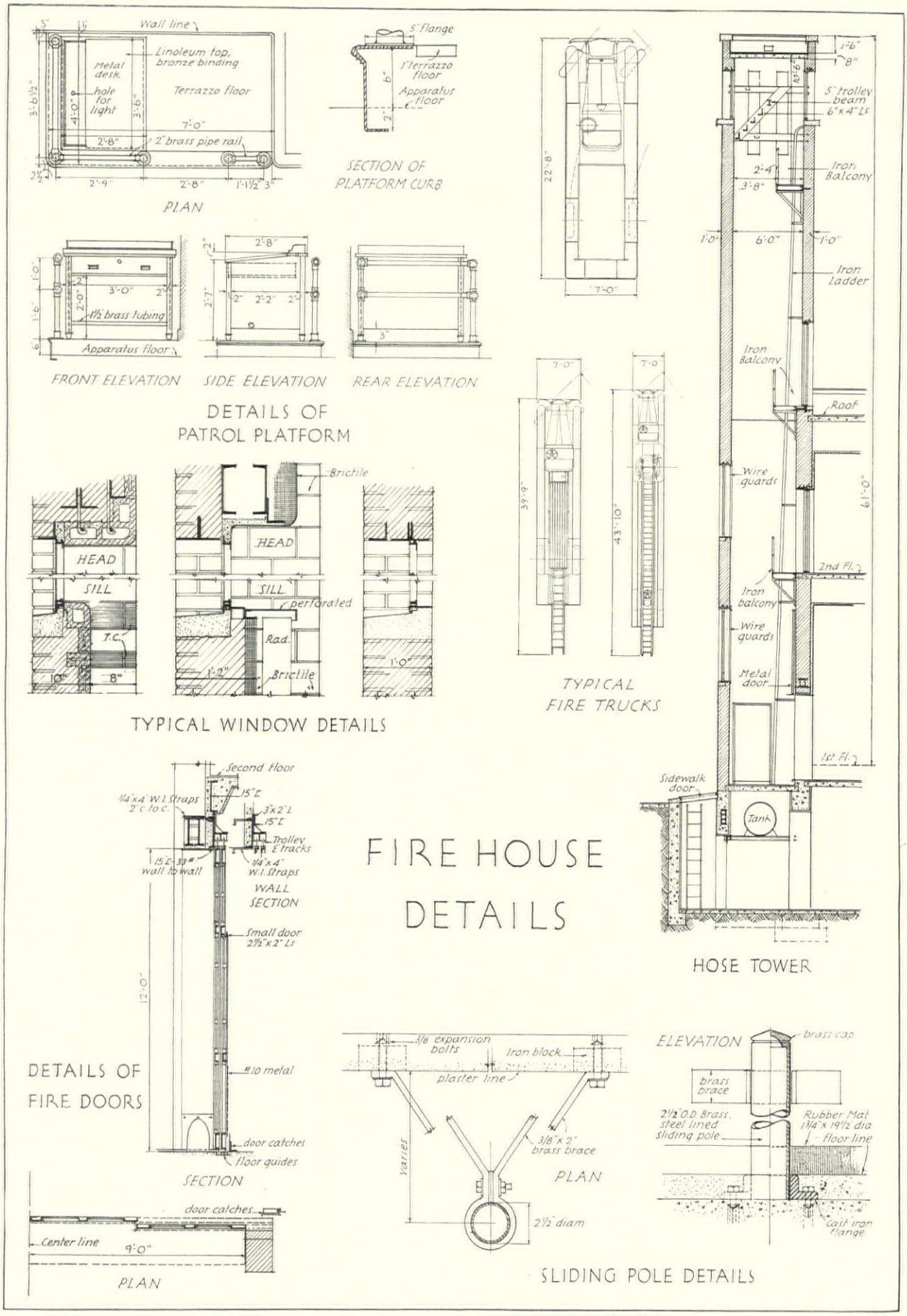
BELVEDERE, CALIFORNIA

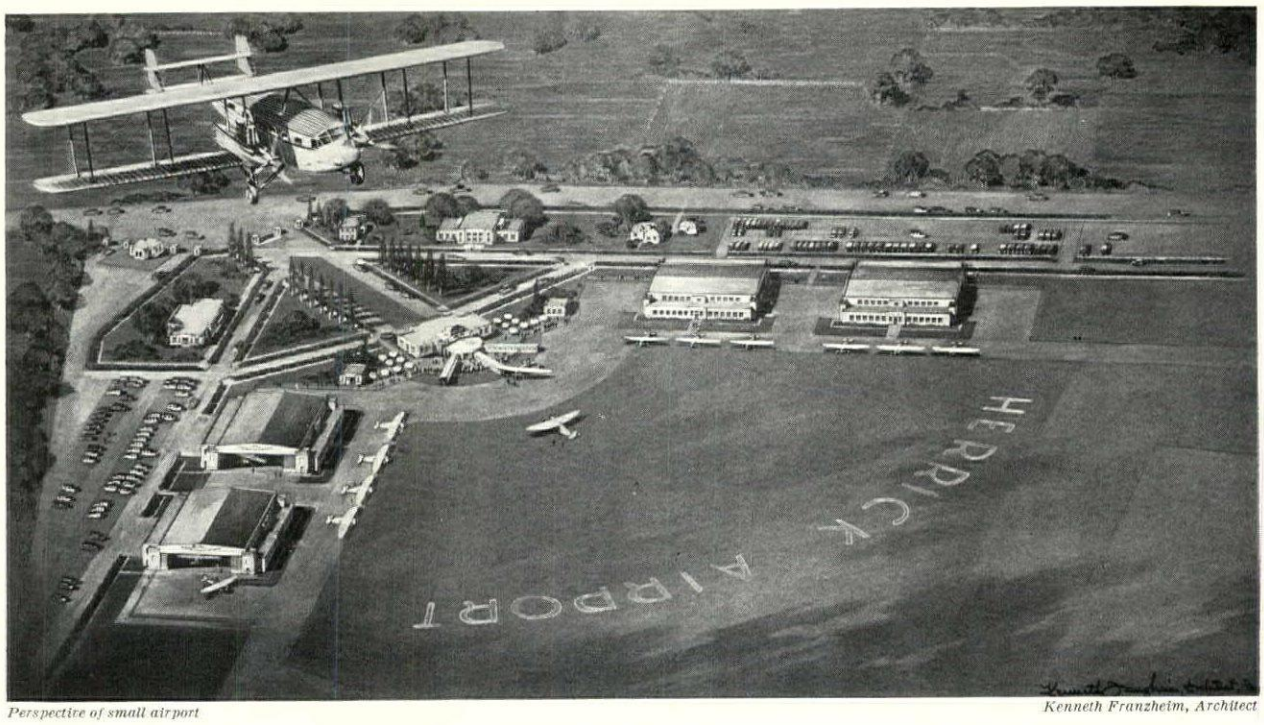
LOS ANGELES BOARD OF PUBLIC WORKS

Designed in a residential bungalow manner to conform with the character of the neighborhood, this one-story fire house is a rather uncommon type, and yet is thoroughly suitable for the small area which it serves. It has walls of brick painted with white dampproofing paint. The tile roof, of variegated colors, is in random pattern



FLOOR PLAN


Wall line
Linoleum top, bronze binding
Metal desk
hole for light
Terrazzo floor
2" brass pipe rail
PLAN
5" flange
1" terrazzo floor
Apparatus floor
SECTION OF PLATFORM CURB
22'-8"
7'-0"
FRONT ELEVATION
SIDE ELEVATION
REAR ELEVATION
1½ brass tubing
Apparatus floor
DETAILS OF PATROL PLATFORM
HEAD
SILL
T.C.
Brictile
perforated
Rad.
TYPICAL WINDOW DETAILS
39'-9"
43'-10"
TYPICAL FIRE TRUCKS
5" trolley beam 6"x4" LS
Iron Balcony
Iron Ladder
Roof
Wire guards
61'-0"
2nd Fl.
1st Fl.
Sidewalk door
Tank
HOSE TOWER
FIRE HOUSE DETAILS
Second Floor
1/4"x4" W.I. Straps 2' c to c.
15" I
3"x2" L
Trolley I tracks
wall to wall
WALL SECTION
Small door 2½"x2" Ls
12'-0"
#10 metal
door catches
floor guides
SECTION
DETAILS OF FIRE DOORS
Center line
9'-0"
PLAN
3/8 expansion bolts
Iron block
plaster line
3/8"x2" brass brace
Varies
2½ diam
PLAN
ELEVATION
brass cap
brass brace
2½ O.D. Brass, steel lined sliding pole
Rubber Mat 13¼"x19½ dia
Floor line
Cast iron flange
SLIDING POLE DETAILS



Perspective of small airport — *Kenneth Franzheim, Architect*

AIRPORTS

THE only difference between large and small airports lies in the degree of development of the basic elements and their accessories. Theoretically every element in the more developed scheme is represented in the lesser. In the smaller airport practically all of the necessary elements, excepting airplane storage and repair, may be concentrated in one compact administration or terminal building.

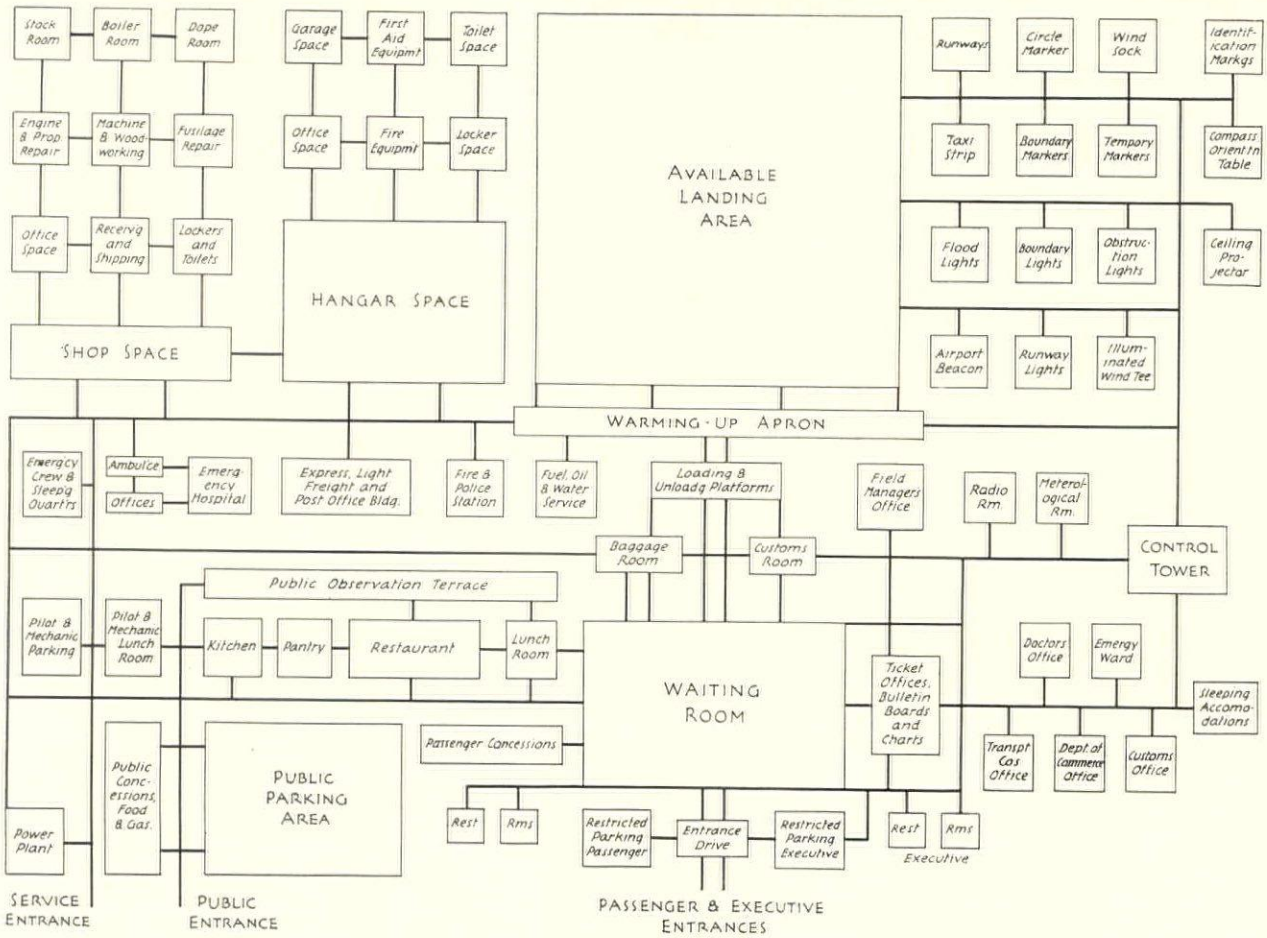
In the chart and in the data check list the airport requirements are segregated into three distinct functional groups according to uses and services: (1) Passenger and Public, (2) Executive and Control, (3) Air Transportation and Services. The relative importance of the elements, whether buildings, rooms or accessories, has been designated according to the ratings required by the United States Department of Commerce. These ratings fall under several different headings: basic requirements for all rated fields, rating on general equipment and facilities, rating on size of effective landing area, and rating on night lighting equipment. In each group rating is determined by the degree of development of the facilities and equipment included under that heading and is designated by ratings: A, B, C, etc. Thus, an airport with a complete and well-planned landing field may receive an "A" rating under one heading and a "D" rating under another, due to inefficient lighting, etc.

I PASSENGER AND PUBLIC

Approach (br). Should be readily accessible to the public by means of automobile, bus, train service, etc. Situated adjacent to a through highway or main traffic artery. The importance of air transportation is determined principally by the accessibility of its services.

Entrance and Parking. A surfaced drive to main highway. Width determined by traffic. Automobile parking spaces adjacent to the administration building. Another for taxi stand. May include large area for the visiting public, separate entrance. Concessions and gas and oil services for this area.

Waiting Room (A). Similar to railroad station. Central or focal point of the air station and administration group. In small airports it may serve many functions: waiting room, plane concourse, customs inspection, baggage room, and circulation for administrative offices and control. Fixed and permanent benches and seats or, preferably, tables and chairs grouped conveniently. Lighting should generally be indirect and diffused to avoid glare; of sufficient intensity to permit reading.



FUNCTIONAL CHART FOR AIRPORTS

A permanent bulletin board for the display of navigation charts, weather reports (A), and air routes. Necessary time pieces explaining the variations in time to be encountered. Stairway to upper administration and control offices separated from waiting room. Waiting room on two floors; possible by use of mezzanines. Field view terraces.

Ticket Office. Space allotted determined by amount of traffic and number of operating transport companies served. Simply a counter in waiting room, preferably a separate room with ticket windows. In most cases information is now combined with ticket space. Direct connection is necessary between the ticket office, operating transport companies' offices and field manager's office.

Rest Rooms (br) (A) (B) (C). As spacious as possible, equipped with complete washing facilities, toilets, lavatories. In more extensive layouts other accessories, such as smoking rooms, powder rooms, barber shops, bootblack, etc. Additional toilet facilities for executives and employes when possible.

Lunch Rooms and Concessions (A). Desirable in air station of any size. Service at all times of night and day. Rapid preparation of food must be accomplished with the help of efficient planning. Directly connected with the passengers' waiting room.

Other concessions may be included to take care of baggage checking, telephone and telegraph, newspapers, periodicals, gifts, flowers, etc.

In large civic airports, if such provisions are not taken care of by outside interests, large dining rooms and terraces overlooking the landing field are an attraction; wide expanses of glass facing field, or open terraces, colorful, with umbrellas, awnings and landscaping.

Baggage and Customs Inspection. Baggage must be handled quickly and efficiently. Space for depositing, sorting, weighing and marking. Direct connection with waiting room or concourse and with field loading platforms. Trucks may be used. Covered passageways or ramps or canopies. Room or section of the waiting room, with counters or tables for customs inspection.

Loading and Unloading Platforms. To minimize danger various types of covered passageways are used from waiting room to plane. Simplest is the awning type. Others include covered passageways and ramps of permanent construction with retractible telescopic ends to allow a closer connection with planes or underground tunnels to platforms.

II EXECUTIVE AND CONTROL

Field Manager's Office and Other Offices. Office for field manager or superintendent should command inclusive view of airport facilities and should have direct communication to all parts. Should be adjacent to the control tower but never combined with it.

Other offices for the officials of the operating transport companies, customs officers, Department of Commerce inspectors. A doctor's office with rooms for emergency operations and treatment. All of these rooms should face the field and be easily accessible.

Traffic Control Room. Room or tower above main body of administration building. Should have a continuous window surface on all sides commanding an unobstructed view of the landing field and air. Used to direct all plane maneuvers; provided with telephone connections, fire alarm and emergency call signals, direct communication with field manager's office and radio station and landing light switches and sirens for signaling aircraft. Should be circled with an open-air balcony for use of the traffic controller in fair weather.

Radio Room (A). Adjacent to the control tower and the manager's office. A small room, preferably soundproofed, with simple arrangement of radio, telephone and telegraph; minimum of furniture. Radio antenna generally situated at some distance from the field to avoid creating aerial hazards. Receiving set and loud-speaker required for "A" rating of any field within 400 miles of a Department of Commerce radio station.

Meteorological Room (A). Connected directly with control tower and field manager's office. Should have direct access to tower roof or other high surfaces. Department of Commerce "A" rating requires equipment consisting of anemometer, barometer and thermometer.

III AIR TRANSPORTATION AND FIELD SERVICES

Flying Field (br) (1) (2) (3), etc. The available effective landing area is perhaps the most important element in airport design. Civil airports are rated according to the length and number of landing runways with a clear approach at either end. By clear approach is meant the absence of buildings, towers and wires over which a 7 to 1 glide is not possible from the edge of the runway. Basic requirements of a field provide for safe landings and take-offs in all weather, and the absence of roads or other obstructions on the field. Rating "1" provides for 2,500 ft. of landing area in eight directions with 500-foot runways not crossing or converging at angles less than 40°. Other ratings provide for 2,000, 1,600 and 1,320 ft. of effective landing area. The altitude above sea level, if considerable, affects these ratings. Airports with continuous heavy traffic have found it necessary to surface used portions of the field as it is impossible to keep good turf at all times of the year.

Runways. Taxi strips and warming up aprons should be surfaced if possible, — gravel, cinders, slag or crushed stone; will require artificial binder of oil or tarvia in dry weather. Concrete is the best surface for take-offs but is difficult to land on. Have parallel strips of hard resilient surfacing when possible. When cost is important, surface large areas with cheaper materials rather than small areas with expensive.

Runways as flat as possible; slope for drainage ¼ in. to the foot of width. With gravel surfacing, drainage by seepage. In other cases artificial drainage is necessary—hollow tile, perforated pipe or stone-filled trench.

Accessories. Basic requirements of the field include: wind sock, circle marker, identification sign, boundary markers, obstruction markers and temporary markers. Night lighting requirements for "A" rating include airport beacon, illuminated wind tees, floodlights, hangar floodlights and roof markings, runway marker lights, ceiling projector, and boundary and obstruction lights. These require maintenance, electric power and a sufficient personnel to operate them at all times. Field maintenance will also require grass cutting machines, road drags and snow plows. Provide storage space.

Field Service. Dispensing gas, oil and water to planes and airport automobiles and trucks. Underground tanks equipped with pumps and retractible metal hose connections. Other field equipment; oil and water heaters, wheel chocks and handling dollies.

Hangar Space. Hangars are first consideration for airport buildings. Size determined by dimensions of plane or planes to be housed. The single hangar is more desirable but seldom used because of greater expense. The large multiple hangar is far more practical, allows various sizes and types of planes. Should be big enough to house the possibly larger plane of the future.

"A" rating requires hangars 80 x 100 ft. with 18 ft. clearance. "B" rating requires 60 x 80 ft. with 14 ft. clearance, etc. Some hangars have been constructed 300 x 150 ft.

Construction: steel or masonry walls, steel sash, and timber or metal roofing. This type highest initial cost but most permanent and most satisfactory appearance.

Floors: sand, gravel, cinder, wood or concrete. Concrete best for hangar space, wood block for shop space and wood flooring for office space.

Door: most important feature of hangar. Types include curtain, rolling shutter, folding rolling, bascule (motor operated), horizontally hinged (divided), horizontally hinged (single), folding, and straight rolling and sliding. The rolling shutter and the bascule are conceded the best but are also the most expensive.



ADMINISTRATION BUILDING
RANDOLPH FIELD, SAN ANTONIO, TEXAS
ATLEE B. & ROBERT M. AYRES, ARCHITECTS

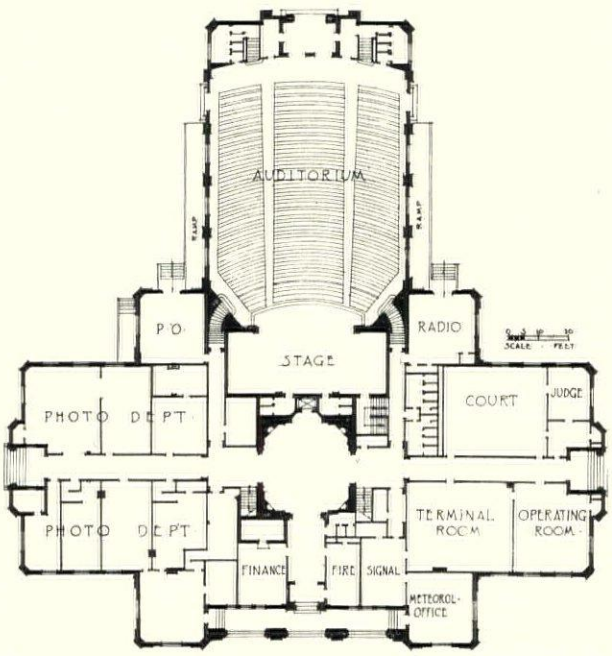
Space should be included in the hangar for offices, locker rooms, lavatories, storage, fire equipment, first aid and for repair work.

Shop Space. No general rule for required area. Smaller ports, space in the hangars themselves or in temporary lean-tos is sufficient. Where practical and efficient, concentrate all repair work in a separate building or buildings. Shops well lighted by daylight and artificial light. Skylights often used. Heating of shops and offices may be achieved by small round stoves.

To obtain an "A" and "B" rating for general equipment, there must be a sufficient personnel and sufficient equipment in the shops to perform major and minor repair jobs.

On the field, lunch rooms and services for pilots and mechanics, as well as sleeping accommodations for two or three men who form a continuous personnel. Parking areas for pilots and mechanics.

Fire and Police Station. Necessary only for large civic air stations. May be equipped with garages and repair shops for housing part of the city fire de-





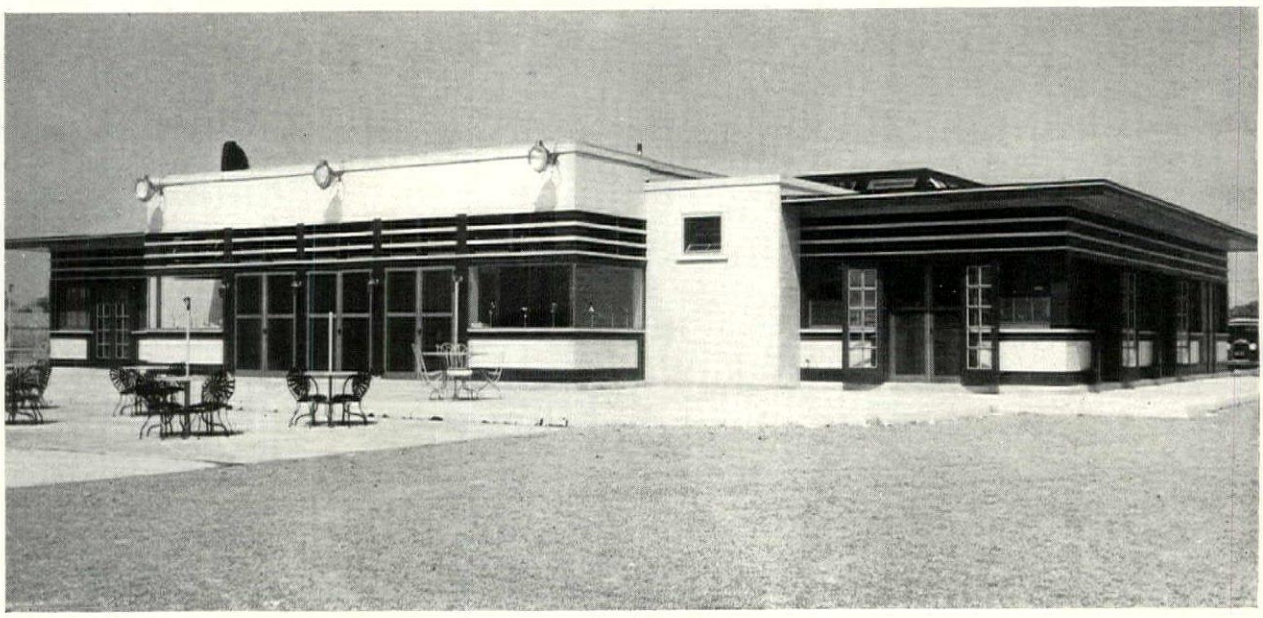
Tebbs & Knell Photos

Hangar at Roosevelt Field, Long Island, N. Y., above. An airport restaurant and lunch room, with terrace, below. Kenneth Franzheim, Architect

partment, special equipment trucks, police cars and motorcycles. It should also have dormitories, living rooms, locker space, etc., for housing members of the city fire department, the police force and the emergency crew.

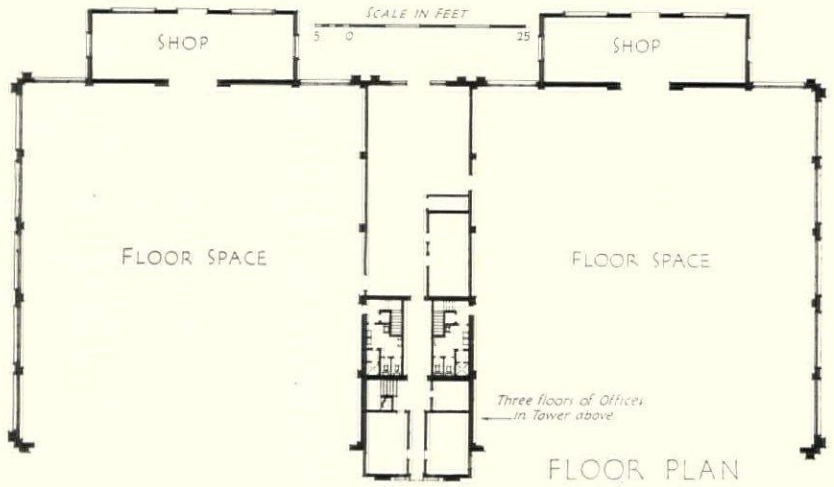
Emergency Hospital. Necessary for large terminals where air traffic is constant and heavy. For an "A" rating an ambulance or similar convenience is necessary. Complete first aid equipment, fire fighting equipment and wrecking equipment should be available at all times for field service. Emergency hospital should include housing for personnel, doctor's office, receiving room, operating room and emergency ward.

Express, Light Freight and Post Office Building. Where these elements are not taken care of in the administration building and where traffic is heavy enough to require it, a separate building may be planned for these elements. It should have good access to the main highway and should be situated near the warming up apron to allow facility in loading and unloading planes.





Whittington

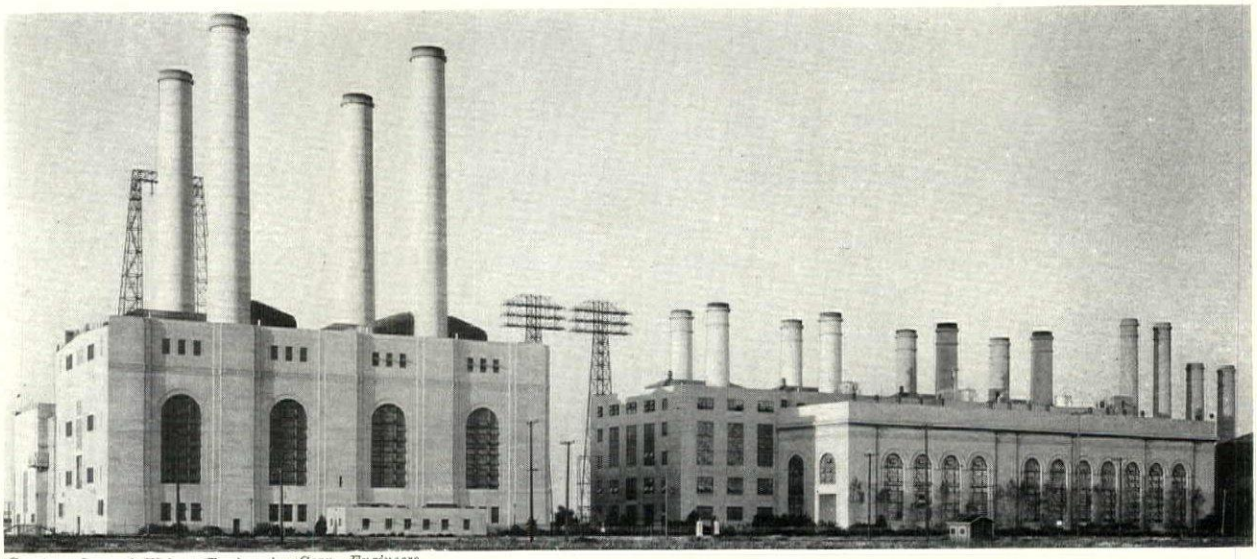


Regarded by many as the most progressive aviation State in the country, California has contributed many splendid examples of design and construction to the steadily increasing number of airports. Mines Field, a municipal project sponsored by the city of Los Angeles, is no exception. Hangar No. 1, shown above, with the administration building in the background, is one of the double type with offices in the tower separating the hangar space. Of masonry construction with a steel-framed roof, the walls are finished in stone tile. The flooring for both the hangar space and shops is concrete

MINES FIELD MUNICIPAL AIRPORT, LOS ANGELES, CALIF.

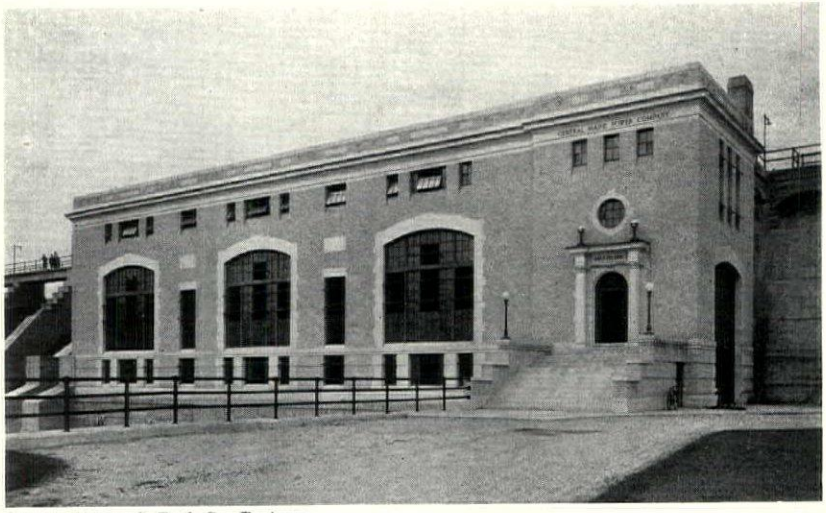
LOS ANGELES BOARD OF PUBLIC WORKS

POWER HOUSES AND DAMS ARE INCLUDED IN

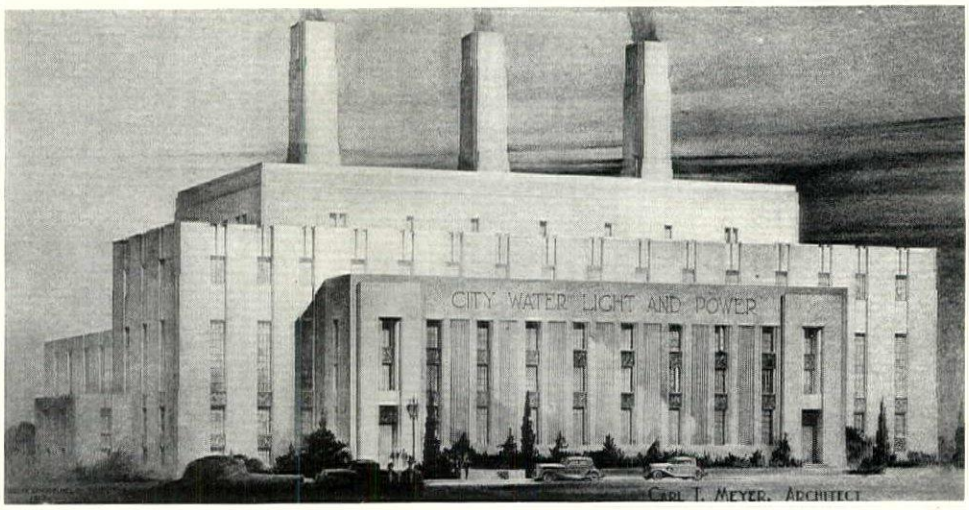


Courtesy, Stone & Webster Engineering Corp., Engineers

Less often thought of by architects than by engineers, power, light and water plants will nevertheless receive an important share of Public Works money. Such plants require buildings, and such buildings require architects. In most cases, the architect is called upon to act in a design capacity only, clothing the work of the engineers in a suitable architectural expression



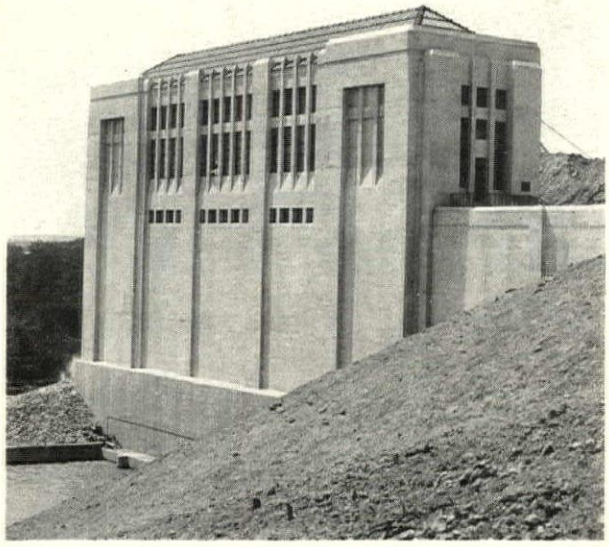
Courtesy, Morton C. Tuttle Co., Engineers

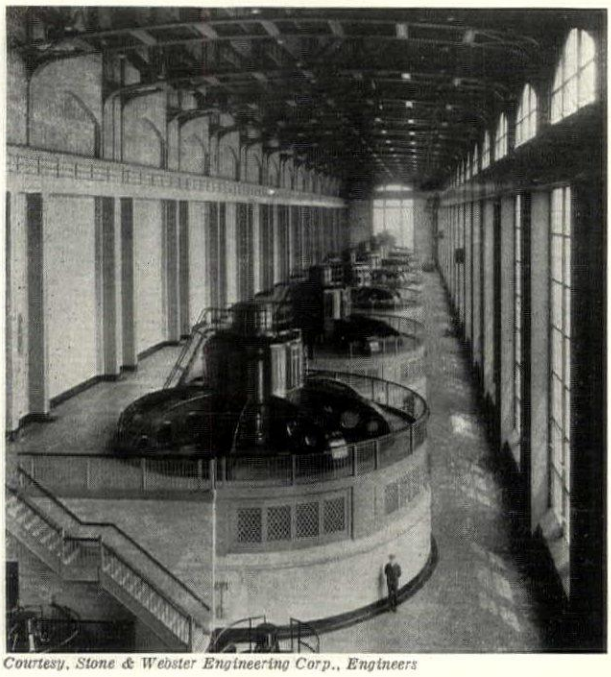


Top, part of the steam plant for the Southern California Edison Co., Long Beach, Calif. Center, Lewiston, Maine, plant of the Central Maine Power Company. Left, power plant at Lake Springfield, Springfield, Ill.

THE GOVERNMENT'S PUBLIC WORKS PROGRAM

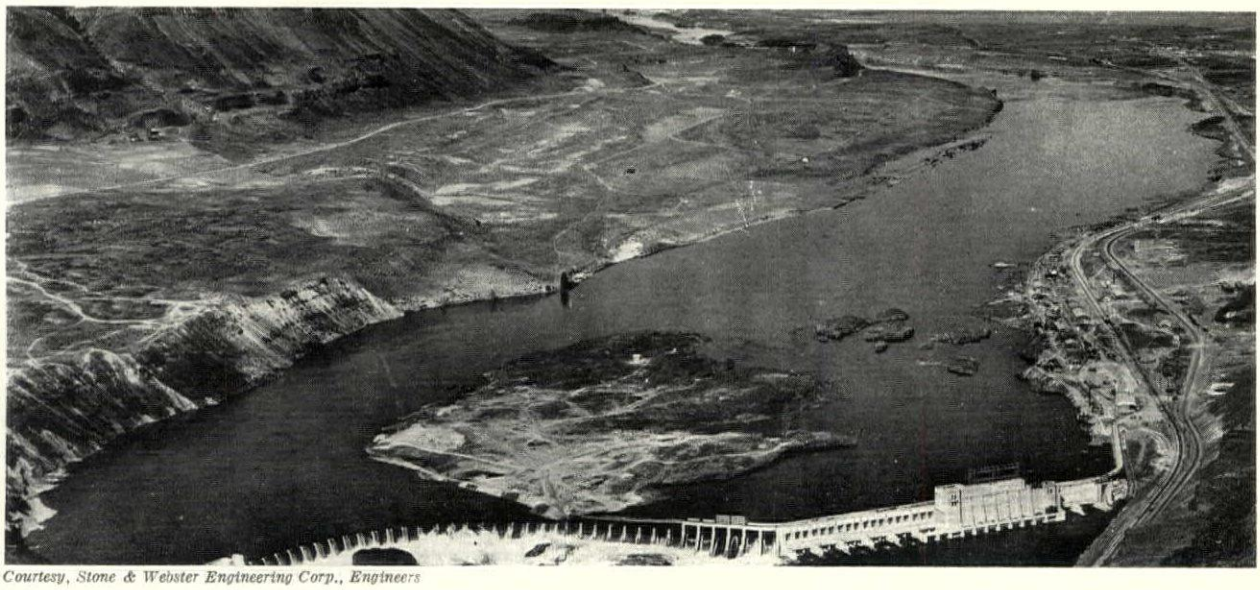
Municipalities and corporations alike are aware of the value in well-designed buildings for well-engineered projects. Even for dams there is need of architectural counsel. In the hydro-plant at Eagle Pass, Texas, right, there is ample evidence of architect-engineer collaboration, the Harza Engineering Company being the engineers and Ralph H. Oliver the architect





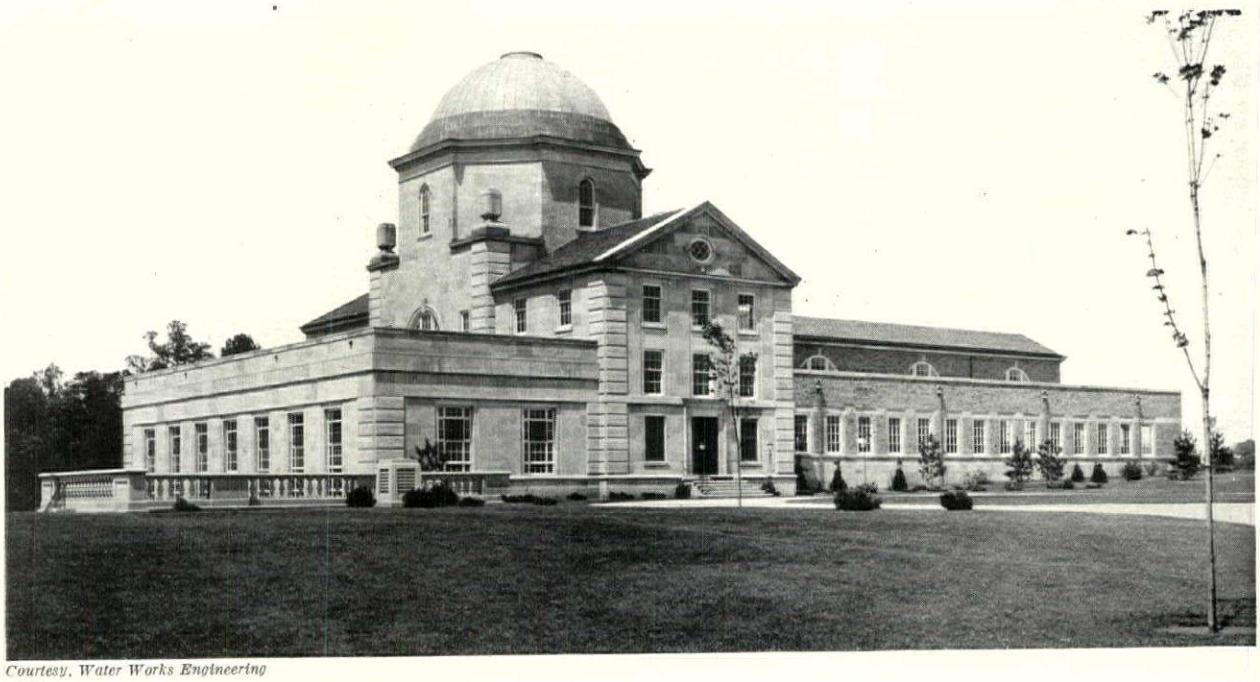
Courtesy, Stone & Webster Engineering Corp., Engineers

The interior of the Conowingo station of the Susquehanna Power Company, left, typical in kind if not in size of many power plants, has decided architectural character. And while the Rock Island Development of the Puget Sound Power and Light Company, below, is almost wholly an engineering accomplishment, an architect was employed to contribute a fitting design



Courtesy, Stone & Webster Engineering Corp., Engineers

MANY WATERWORKS BUILDINGS CAN NOW BE



Courtesy, Water Works Engineering



Courtesy, Engineering-News Record

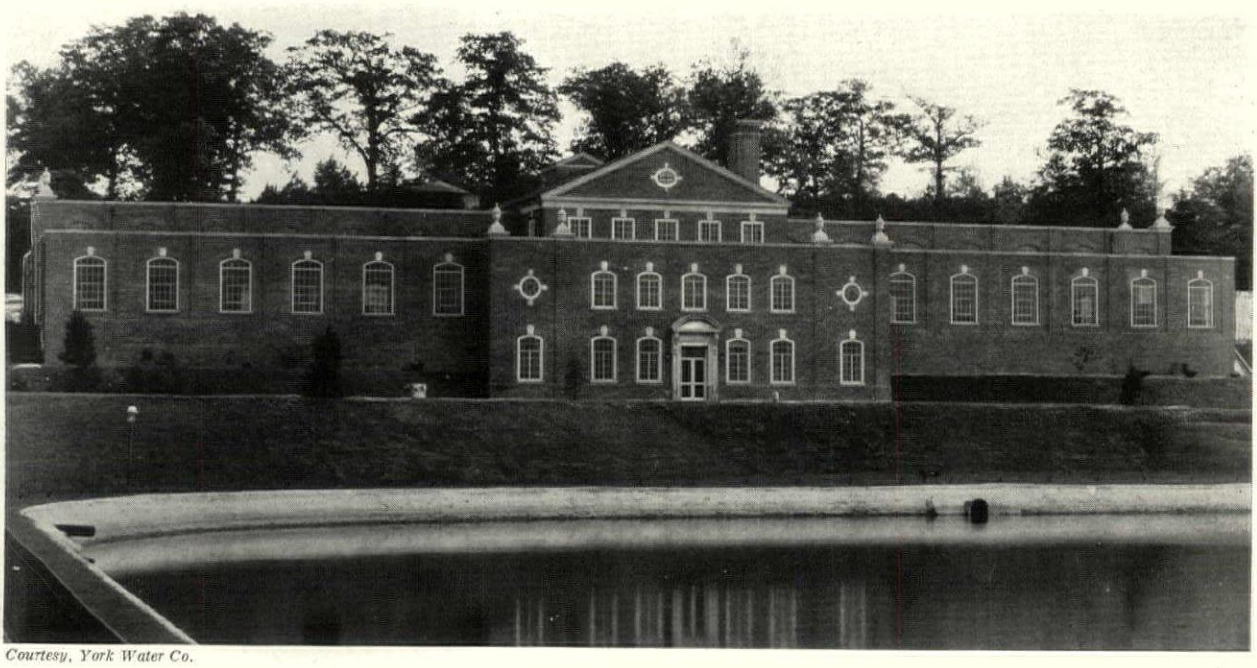
Only non-progressive municipalities fail to spend the additional fraction of 1 per cent of the cost of a water works project to obtain creditable buildings designed by competent architects. Such a filtration and pumping station as the one in Erie, Pa., above, instills as much civic pride in Erie citizens as would a fine city hall, courthouse or post office

Lowering the cost of upkeep by increasing the pride of the attendants in the plant is one of the tangible beneficial results of good architecture. This has been the effect in the Sewickley, Pa., plant, above, and in the Portland, Me., plant, right. John Calvin Stevens was the architect for the entire Portland water works development



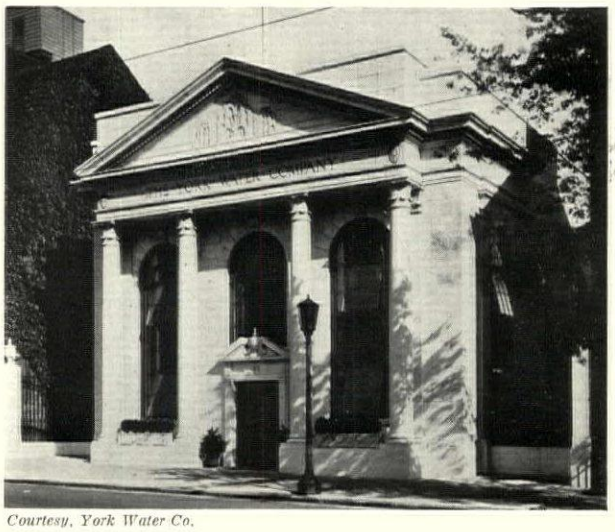
Marshall Photo

FINANCED THROUGH NRA LOANS AND GRANTS



Courtesy, York Water Co.

Few cities can boast as attractive or as serviceable water works plants as York, Pa. Typified by the filter plant, above, which was designed by Palmer & Landin, the water works have been singled out many times as an example for other cities to follow. The administration building, right, is equally a credit to the community and a constant source of civic pride

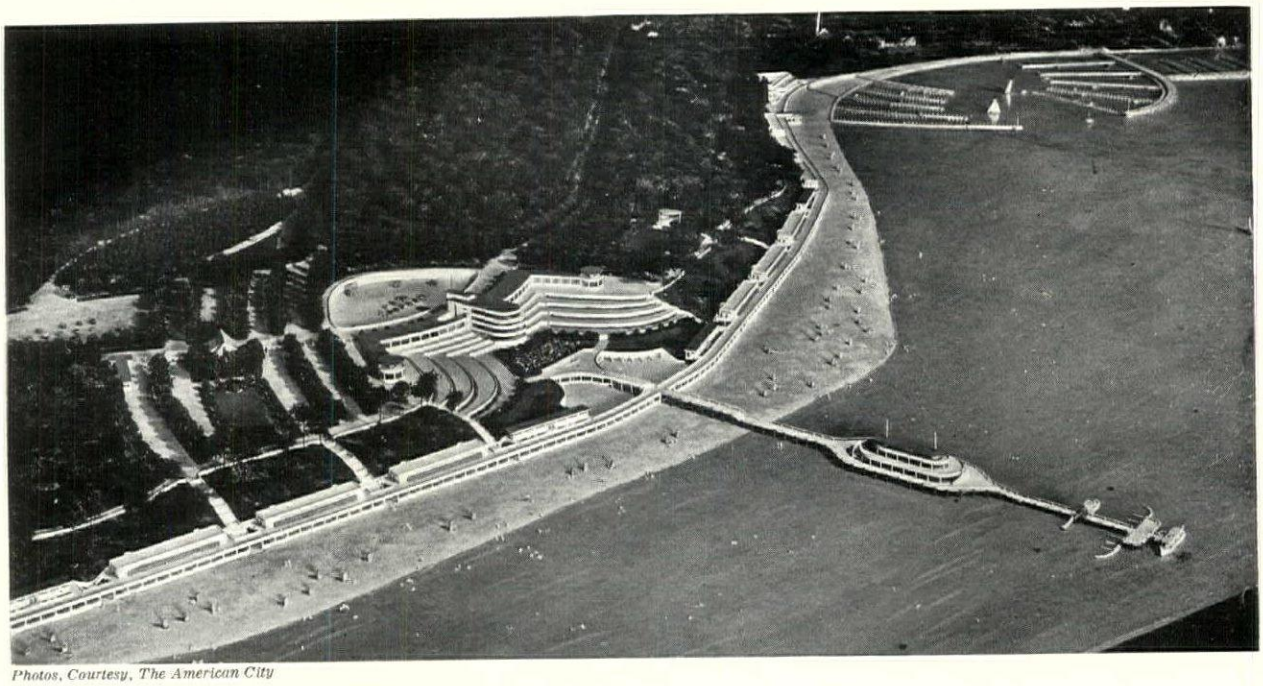


Courtesy, York Water Co.



Courtesy, Water Works Engineering

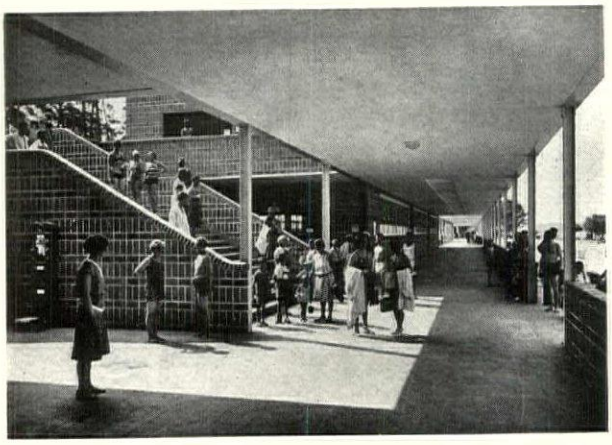
The inspection gallery of the Erie filtration station, left, is a typical example of intelligent cooperation between engineers and architects. Because the excellence of waterworks engineering is seldom apparent to taxpayers, a good building is frequently the only basis they have for judgment — in which case good architecture invariably pays a handsome dividend



Photos, Courtesy, The American City

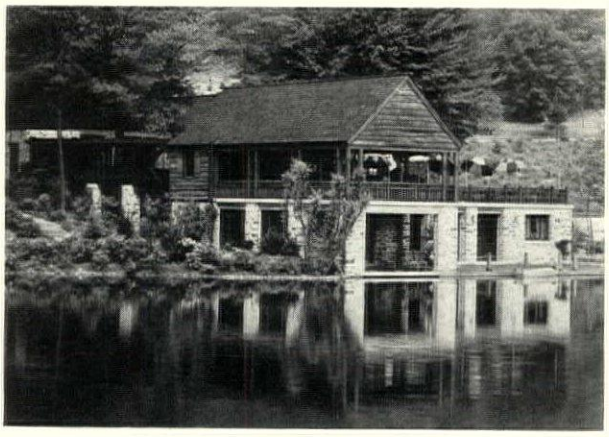
WANNSEE BATHING BEACH, BERLIN, GERMANY
FRANZ WAGNER, ARCHITECT





In Germany, where government aid for municipal projects of all kinds has been practiced for many years, bathing beaches, playgrounds and other projects beneficial to public health are frequent objects of governmental financing. An outstanding example is the Wannsee Bathing Beach located just outside Berlin. A model of the development, only part of which has been completed, is shown at the top. Above, left, is the beach with bath houses in the background, and below, left, the lower promenade of the pavilion, with dressing rooms above and below, accessible to the beach

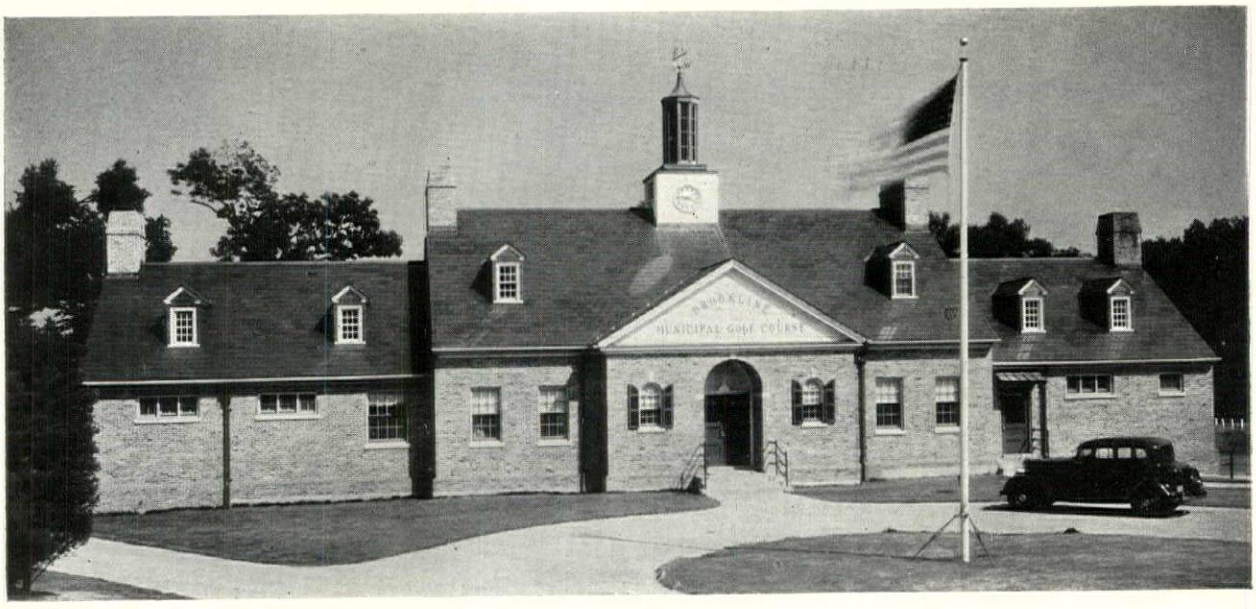


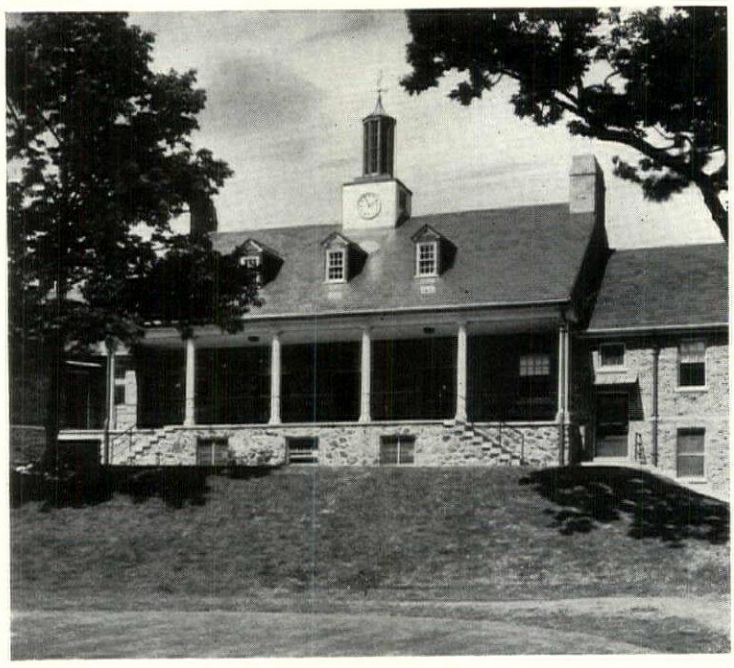


Appointment of a special board to study the problem of increased leisure indicates the growing importance of recreational facilities in the scheme of public works. Park systems, with their attendant buildings — boat houses, bathing pavilions, public toilets — are fertile fields for architectural activity. The public toilet building, above, right, the boat house and restaurant, right, and the lake development, below, are all parts of Westchester County's unmatched park system. C. F. Loyd was the architectural designer for all buildings

BUILDINGS FOR WESTCHESTER COUNTY PARK SYSTEM, NEW YORK
GILMORE D. CLARKE, LANDSCAPE ARCHITECT

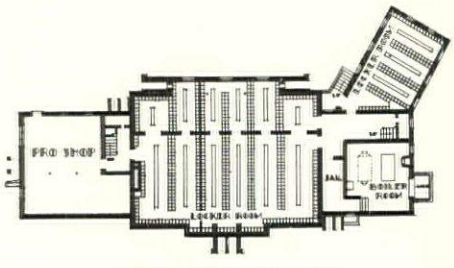




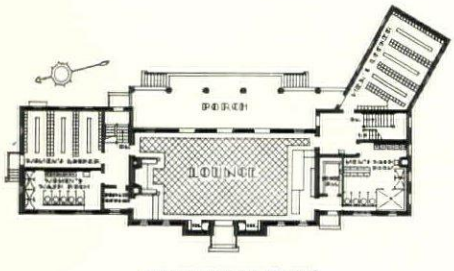


MUNICIPAL GOLF COURSE
BROOKLINE, MASS.
KILHAM, HOPKINS & GREELEY
ARCHITECTS

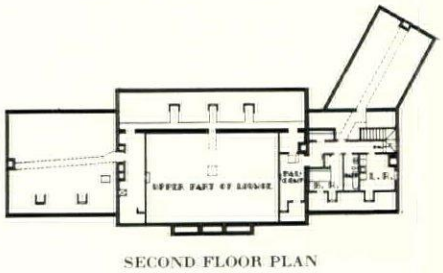
Now that rich and poor alike are playing golf, municipal courses are finding their place in the recreational planning of most progressive communities. Seldom elaborate, they are usually designed with a view to minimum maintenance costs. In addition to locker and rest room facilities, provision is usually made for resident superintendence, a social hall and office. Dining room, "pro" shop and similar conveniences are optional



BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



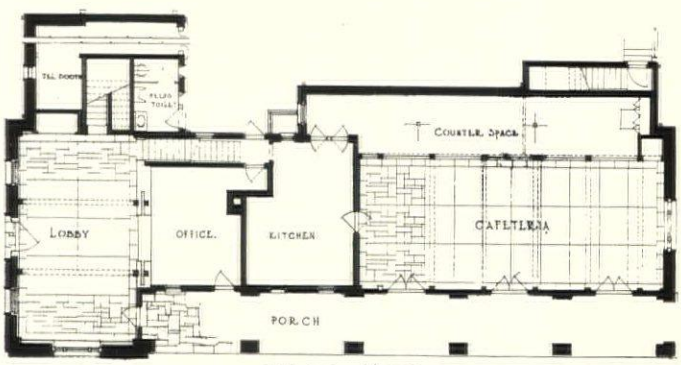
SECOND FLOOR PLAN



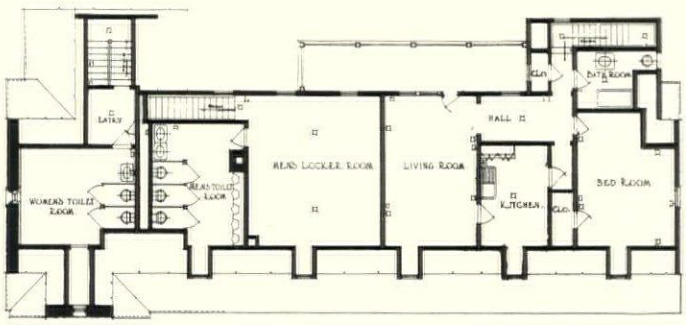
SAXON WOODS GOLF COURSE
WESTCHESTER COUNTY PARK SYSTEM
NEW YORK
C. F. LOYD, DESIGNER



Although no N.R.A. money has up until now been appropriated for construction of community golf courses, it is believed that such projects will be eligible for loans. Preference might be shown them inasmuch as nominal dues, green fees, and other assessments might tend to make them self-liquidating. Further, money spent for course construction goes primarily to labor, a factor which has an important influence on U. S. loans



FIRST FLOOR



SECOND FLOOR PLAN.

"HORS de CONCOURS"

WITH KENNETH MURCHISON

EVERYTHING is N.R.A. these days. And we're in it, we architects. Yes, sir! We have a very nice code indeed. And there's nothing in it that we didn't know before.

It's all according to Hoyle, and Johnson, and Grover Whalen and Ickes. We come under the building construction industry and now that the buttonhole makers have been practically buttonholed out of the speculative building business, we may get somewhere.

The A.I.A. has submitted the code, startlingly like its Canons of Ethics of yesteryear, and we must all live up to it. Quite an easy and agreeable thing to do, provided we get enough jobs to do it with, or on, as the case might be. The cannons roar on.

"Fair competition" is all we ever asked for, but which we didn't always get. For instance, the code recites that

> ". . . one architect shall not knowingly compete on the same job with another architect on the basis of professional charges. . . ."

What will that mean to those architects who turn out plans for a half-million dollar apartment house for a thousand dollars for instance? Answer: The speculative builders and real estate operators will go right along with the thousand-dollar fee boys, just like they always have done. Won't they? You bet they will!

The fees are acceptable: 6 per cent with additional reimbursement for engineering services, and a higher fee for anything costing less than $20,000 or involving special designing services. But how about the Government and its 4.5 per cent? Isn't it up to the Treasury Department to allow 6 per cent on anything costing less than $1,000,000 and permit private architects to superintend the construction of their own jobs?

No Graft. No paying of gentlemanly graft for the getting of a job is allowed under N.R.A. That's very, very convenient, and we're for it, 100 per cent. How often have real estate out-riders come into our office with big things under their hats, and a hefty cut-in for themselves! And how often do they try to make a touch in advance! Most every time, it seems to me.

Contractors. And the Code for Contractors is a good all-around document. No peddling, no chiseling, no gouging — just a good, straight-away job at a fair profit, as it should be. We can still favor our pet builder, I suppose, provided he has a good code in the head and lives up to the reputation that made him our favorite.

Public Works. Some architects have made no try for public work, on the supposition that without political pull there was no use in trying to get any. In that they were wrong. They must first of all have *ability*, and that ability must withstand the searchlight of close scrutiny. With such experts as Assistant Secretary Robert on the job at Washington it is doubtful whether any but those eminently qualified will be accepted, for important works at least.

And Secretary Ickes has accumulated in a few months the greatest of reputations for executive ability, straight shooting and an entire inability to be fooled by the sharpshooters.

Army Stuff. All those architects who worked for the Government during the War, with or without spurs, are probably now attempting to qualify in the construction work for the War and Navy Departments. There are barracks, officers' quarters and hospitals to be provided, besides a goodly number of miscellaneous buildings, such as administrative, storage warehouses, hangars, etc.

Executives. The President seems to be possessed of a rare talent for picking good men. Where, for instance, could he find more of a he-man than General Johnson? He lays down the N.R.A. principles in no uncertain fashion and he gives them hell when they try to kick over the traces.

Keep Away. They say that Washington is filled with glad-hand artists, who have sure ways of getting you a job. All they want is half the gross, or as near it as they can get. So, when you get through, you'll be very comfortably out of pocket. At least, you would be if the big influences were able to make good. Which they rarely are, according to all reports.

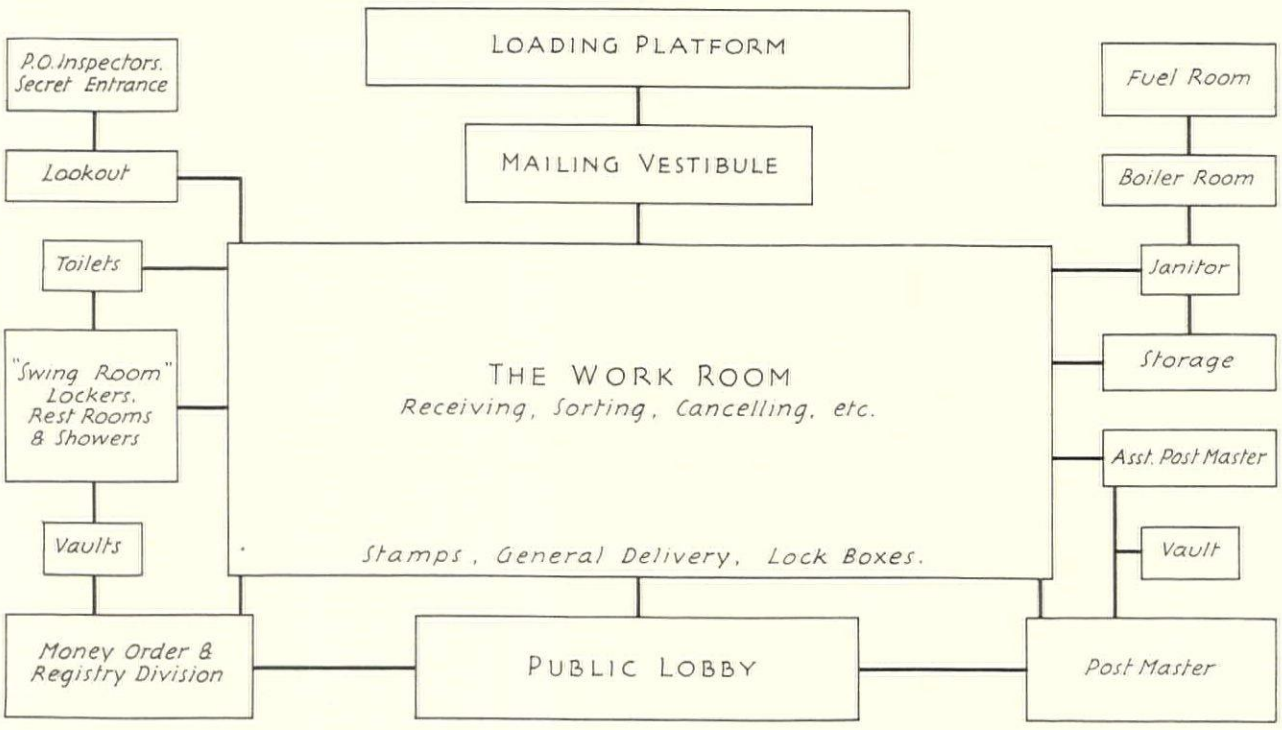
So keep away from the racketeers. Be good — and you'll probably die early. Be persistent and you might get a job out of Uncle Sam. He seems to be your best bet just at present. The apartment house business is under a temporary blight and so is the office building industry. Some day the tenantry will catch up but until it does we must turn to other fields, or, better, to other greenback pastures.

POST OFFICES

THE architect who has a post office to design for Uncle Sam not only has an intelligent client but one who knows what he wants through long experience. The routine of postal service has been highly perfected and demands a building in absolute adjustment to its needs. Through years of specialization in post office design, the Office of the Supervising Architect of the Treasury Department has developed a technique and a constantly improved standardization of plan and detail to fill these needs efficiently and economically. In architectural design the Department has provided local post office buildings that are a credit to the communities and are in accord with the traditions of the localities.

The local architect who receives a post office commission, in accordance with the announced policy of Assistant Secretary of the Treasury, Lawrence W. Robert, Jr., is assured of the cordial cooperation of the entire staff and the advantages of their invaluable fund of knowledge and experience. To simplify and expedite the work of the private architect the Office of the Supervising Architect has prepared an exceedingly clear and logical document —Instructions to Private Architects Engaged on Public Building Work Under the Jurisdiction of the Treasury Department. The sections of these instructions cover: I. General Information; II. Architectural Design, Drawings, etc.; III. Specifications, Samples, Administration Procedure, etc.; IV. Structural; V. Mechanical Equipment. These are supplemented by addenda or individual directions in specific instances, and the alphabetical index adds to its usefulness as a reference work.

For the proper functioning of the post office many details of arrangement and equipment have been standardized and dimensions established. These have been carefully drawn to scale on a series of sheets known as "Miscellaneous Details." They show all the highly specialized details, such as counters, lockboxes, "look-out" slits (which permit the Inspector to observe every employe in any portion of the building at any time without the fact being known), etc., etc. Since these details are constantly being revised and improved the latest issues of the drawings only are sent to the local architect to expedite his drafting work. The details are necessary practical limitations but still leave wide latitude for architectural design and ingenuity. Suggestions for better or more economical details are welcomed but are naturally subject to the approval

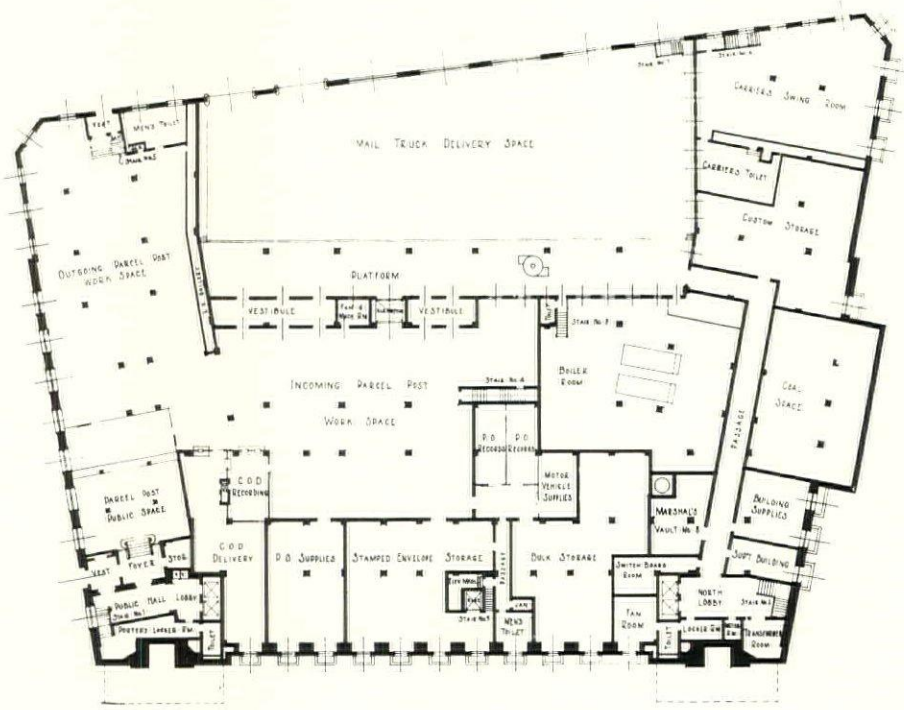


FUNCTIONAL CHART FOR POST OFFICES

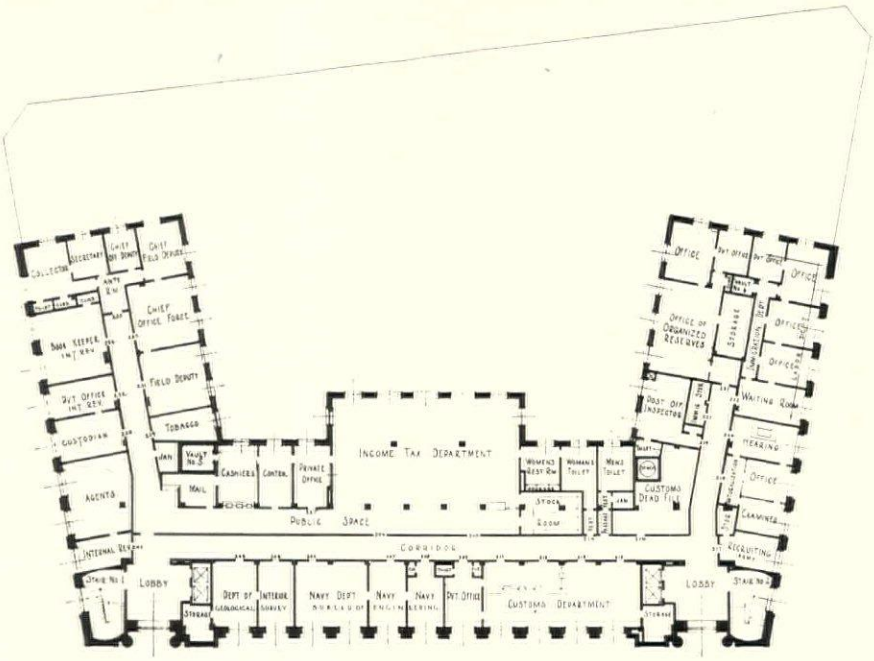


POST OFFICE, HARTFORD, CONN.

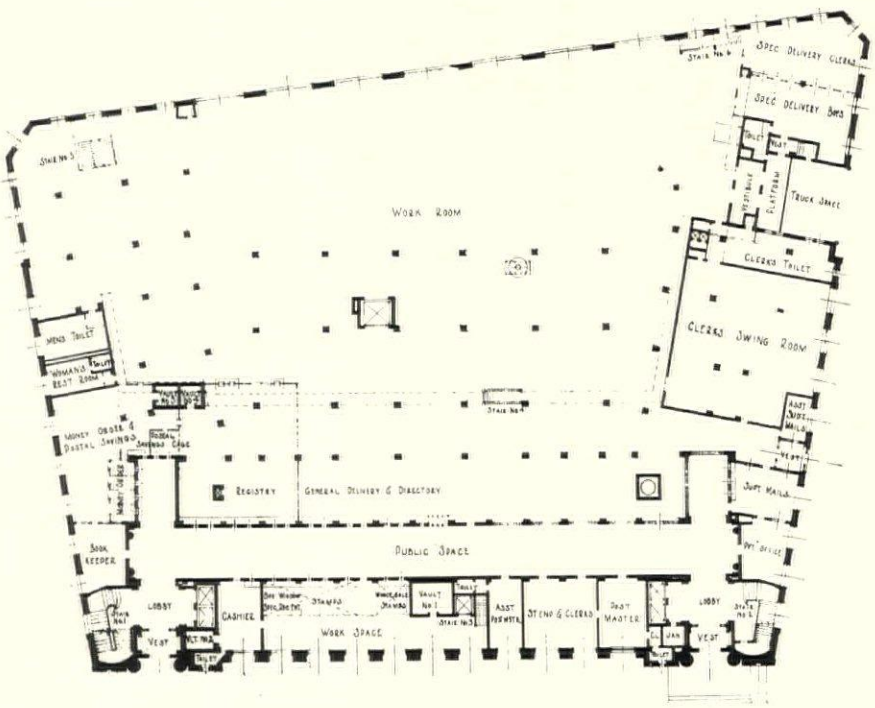
MALMFELDT, ADAMS & PRENTICE, ARCHITECTS



BASEMENT FLOOR PLAN



SECOND FLOOR PLAN

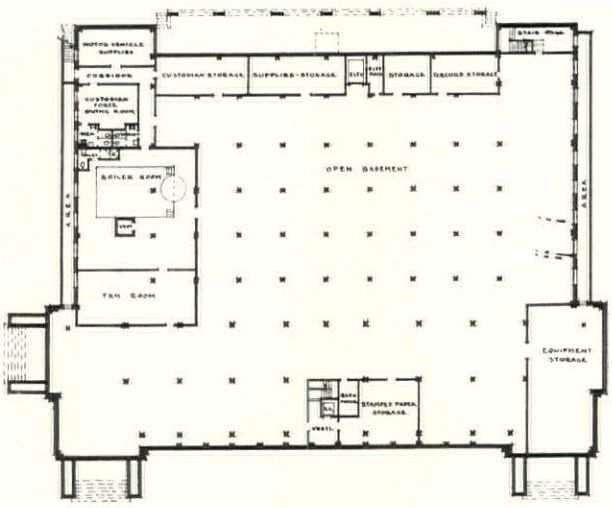


FIRST FLOOR PLAN

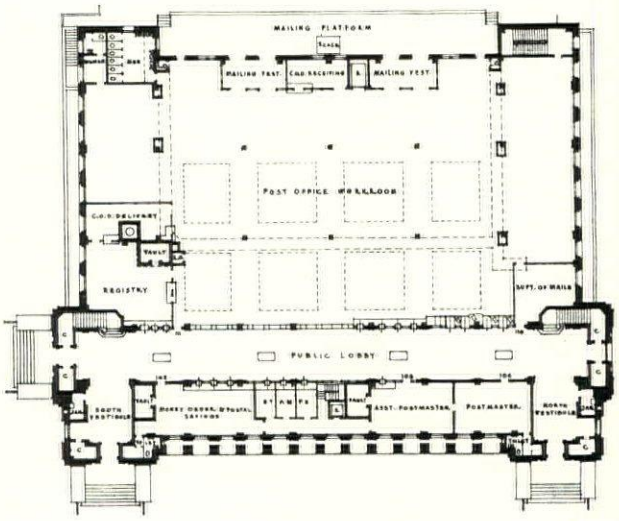
of the Department and the post office officials, as their effect on the routine work of the postal employes must be taken into account.

In plan the requirements are carefully worked out for the special needs of the community and its probable future before the local architect begins his work. The plans on the pages following will serve to initiate the architect into the mysteries of the "swing room," the Inspector's private entrances, ladders, look-outs, etc., and will serve to indicate the arrangement of services in post offices of different sizes and kinds. By cooperating fully with Treasury Department experts the architect will find his work simplified, interesting and profitable.





BASEMENT FLOOR PLAN

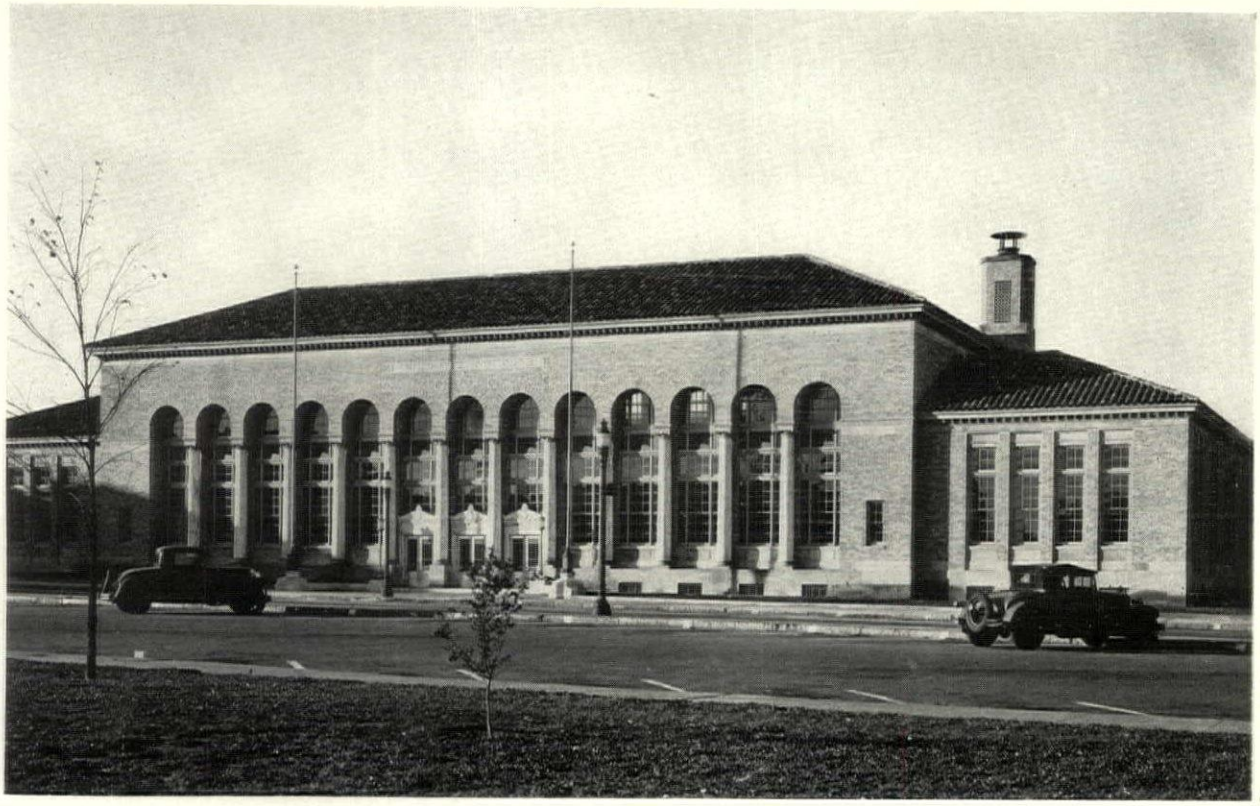


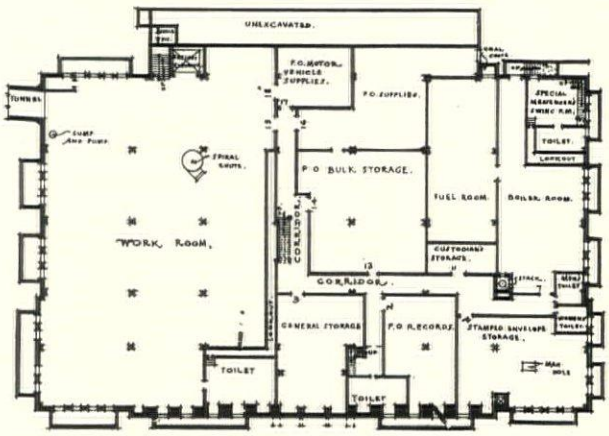
FIRST FLOOR PLAN

POST OFFICE, STOCKTON, CALIF.

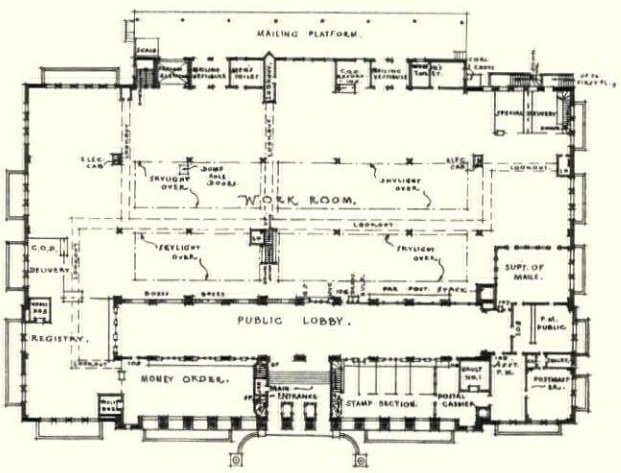
BLISS & FAIRWEATHER, ARCHITECTS

HOWARD G. BISSELL, ASSOCIATE ARCHITECT





BASEMENT FLOOR PLAN



FIRST FLOOR PLAN

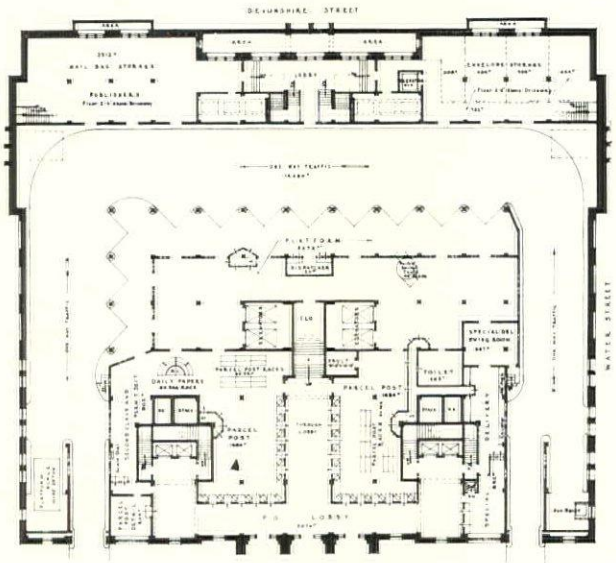
POST OFFICE, ERIE, PA.

OFFICE OF THE SUPERVISING ARCHITECT

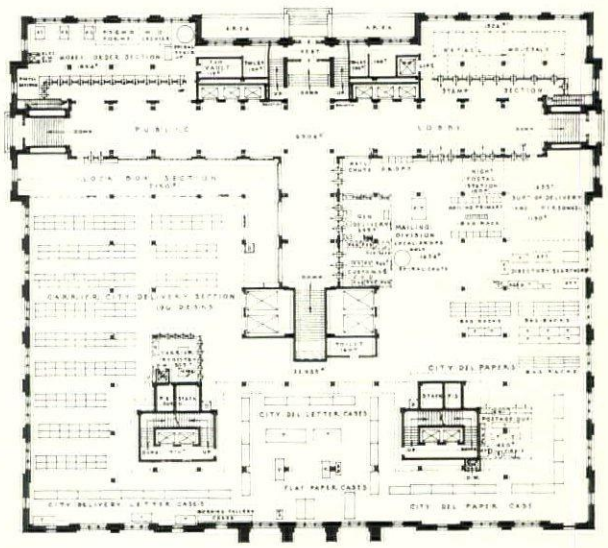


R. M. Shaw

FEDERAL BUILDING
BOSTON, MASS.
CRAM & FERGUSON
ARCHITECTS



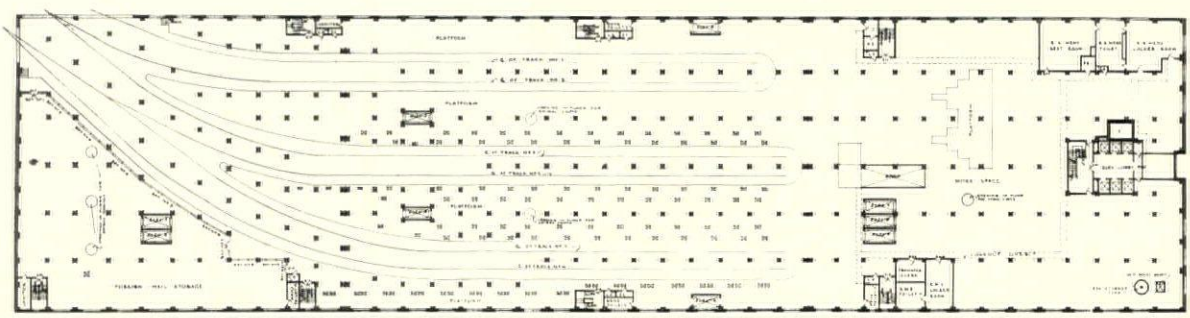
BASEMENT FLOOR PLAN



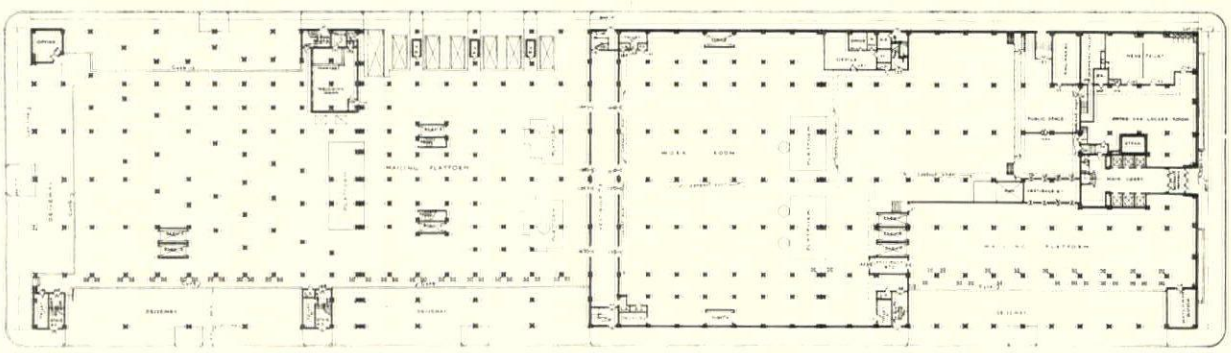
FIRST FLOOR PLAN



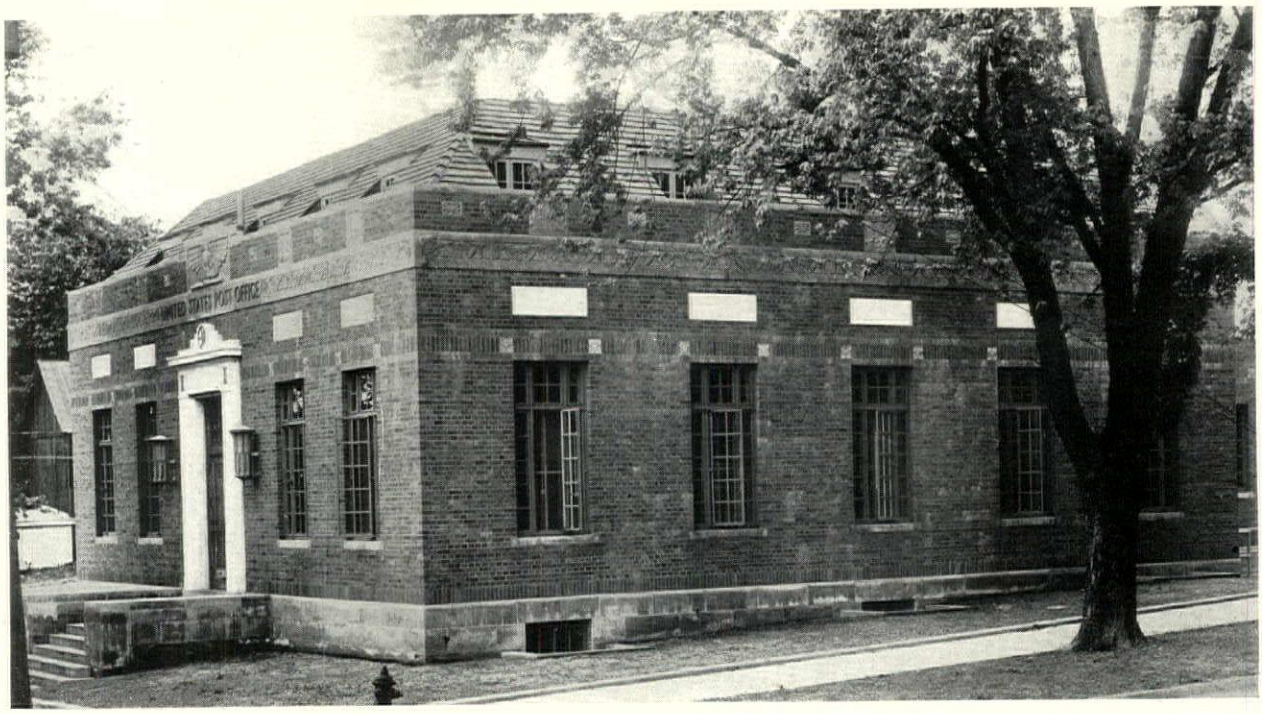
PARCEL POST BUILDING, NEW YORK — OFFICE OF THE SUPERVISING ARCHITECT

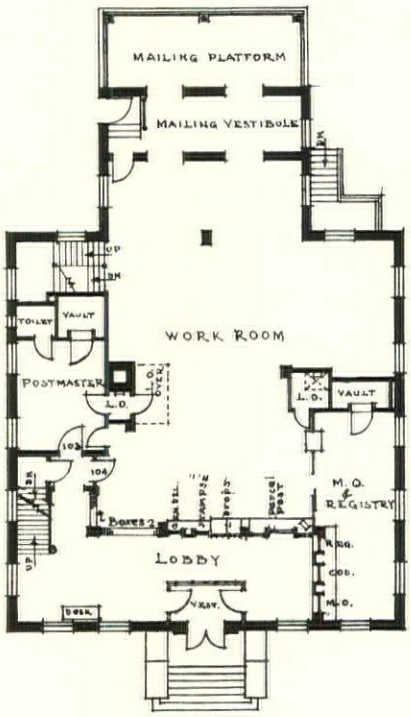


SECOND FLOOR PLAN

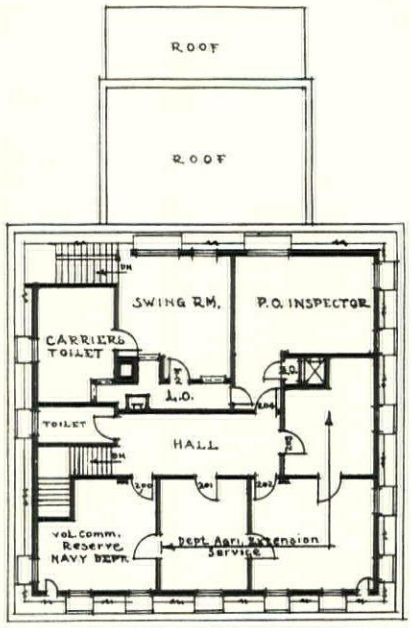


FIRST FLOOR PLAN





FIRST FLOOR PLAN



SECOND FLOOR PLAN

POST OFFICE, SALEM, IND.

OFFICE OF THE SUPERVISING ARCHITECT

THE

ARCHITECTURAL

F O R U M

▼

BUILDING MONEY

A monthly section devoted to reporting the news and activities of building finance, real estate, management and construction

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WASHINGTON DODGE, II

Editor

THE SUCCESS OF THE H.O.L.C.

will be determined by the attitude of mortgagees towards its bonds. What that attitude is now.

Hon. William F. Stevenson
Federal Home Loan Bank Board
Washington, D. C.

My dear Mr. Chairman:

I desire through you to urge the Building and Loan Associations and the Homestead Associations and the Savings Banks of the country to render aid in the campaign the Administration is waging to enable unfortunate home owners to save their homes. They can do this, first, by showing a sympathetic attitude towards the plan for exchanging bonds of the Home Owners' Loan Corp. for mortgages. . . .

Sincerely yours,
FRANKLIN D. ROOSEVELT

WITH this official encouragement, last month the Home Owners' Loan Corp. went about the difficult business of staving off the sheriff. In its many offices crowds of anxious home owners sought aid and instruction, learned for the first time that the application for relief must come to the H.O.L.C. from the mortgage owner, not the home owner.

Throughout the land arose a mighty ballyhoo in an attempt to persuade mortgage owners to turn in their mortgages for H.O.L.C. bonds and save the nation's homes.* State Managers of the H.O.L.C. appealed to patriotism. Cried Nebraska's Charles Smrha: "The holder of the mortgage must know he must do his part in the various movements now on foot to bring the country back to a prosperous state. It would be as presumptuous for a soldier to refuse to go on the firing line because the Government had failed to equip him with the kind of a gun he thinks he ought to have as for the mortgage holders to say that they refuse to cooperate in this movement because of the character of the bonds offered them."

From Manager W. E. McCroskey of Washington came a dire warning that: "In instances where mortgage holders refuse to cooperate with the Government and prefer to foreclose on property we have but one recourse. We will forward the names of these firms to Washington, D. C., where they will come under the official criticism of the U. S. Just what the outcome in such cases will be we do not know, but are certain that some very unpleasant developments will take place for the persons in question."

*For a description of H.O.L.C. mechanics see *The Architectural Forum*, July. Briefly, the H.O.L.C. attempts to exchange its bonds, guaranteed as to interest by the U. S., for mortgages and then to refinance the mortgages over a 15-year period. In certain cases it can make cash advances to home owners.



Keystone

First to be aided

by the H.O.L.C. were Mr. and Mrs. John P. Flannagan of Philadelphia, who had a $1,200 mortgage on their home. Cried Mr. Flannagan: "I got a lump in my throat as big as that house out there I've slaved to keep for my own."

Hardly had the H.O.L.C. offices opened — indeed some had not yet opened — before kindly old Chairman Stevenson began to beam over the reports which were coming in from the home-owners' battlefront. On August 14 he released these reports to the press. Manager E. H. Wrenn of Alabama reported 88 applications received, 27 homes saved from foreclosure, 51 in the process of salvation. Maryland's David Steifel announced that he had 2,961 applications on hand, that 236 homes had been saved, 574 foreclosures postponed. Vincent Daly in the New York office reported that 15,000 applications had come in and that new ones were piling up at the rate of over 1,000 a day.

While at first glance these figures would seem to tell of national home-saving, in reality they mean nothing. When a home owner applies for aid, the mortgage owner is asked to execute the "Mortgagee's Consent to Take Bonds." In some States last month managers were reporting as "saved" homes in which the "consent" had been signed, and almost all homes "in the process of salvation" came under this category. But the document might truly be called "The Mortgagee's Consent to Consider Taking Bonds When a Definite Offer Is Made." For the document is solely one authorizing the H.O.L.C. to go ahead with an appraisal of the home and then to make an offer of its bonds. Then, and only then, does the mortgagee have to decide.

It was still too early last month to make any estimate of the H.O.L.C.'s progress. Before mortgagees will pronounce it a success or a failure they must become more familiar with the general type of appraisal the H.O.L.C. will make and the value that will be placed upon H.O.L.C. bonds. Meanwhile, last month the mortgagees of the nation gave evidence that despite the President's exhortation and despite popular demand for relief, they were still of the view that their prime obligation is not with the public but with that part of the public which has entrusted its funds to them.

Typical of this realistic attitude on the part of the institutions was that of Prudential Life, which owns $911,877,455 worth of mortgages on city property.* Edward Dickinson Duffield, president of

*Of course not all this sum is invested in home mortgages. Last month Prudential extended for five years its $5,000,000, 4½ per cent mortgage on the famed 20-story Pennsylvania Hotel, New York City. Special clause: if at any time the Pennsylvania Railroad Co., owner of the fee, shall dispose of any interest in the fee, the company can declare the mortgage immediately due and payable.



International

Prudential's Duffield, (right) giving the Beaux Arts Medal to Frank C. Farley, representing the Princeton School of Architecture.

URBAN MORTGAGE DISTRIBUTION

There can be no wholly correct answer to that much-asked question "How are mortgages distributed among various types of lenders?" The best estimate on the subject appears in the following table. It was prepared by the Federal Home Loan Bank Board upon the request of Representative Warren J. Duffey of Ohio, a critic of the Home Loan Bank and an ardent supporter of the Home Owners' Loan Act. He presented the figures to the House on April 27 and the table, together with an explanation by Economist Arthur J. Mertzke as to how the estimates were reached, may be found in the *Congressional Record* of that date.

Institution	Total urban mortgages	Urban mortgages, other than home mortgages	Home mortgages		
			Total	Eligible [1]	Noneligible
Federal Reserve member banks	$2,500,000,000	$1,050,000,000	$1,450,000,000	.....	$1,450,000,000
Mutual savings banks	5,850,000,000	2,457,000,000	3,393,000,000	$3,393,000,000	.....
All other banks	1,800,000,000	756,000,000	1,044,000,000	.....	[2] 1,044,000,000
Building and loan associations	7,205,000,000	720,500,000	6,484,500,000	6,484,500,000	.....
Insurance companies	5,940,000,000	3,861,000,000	2,079,000,000	2,079,000,000	.....
Mortgage companies	3,000,000,000	.....	3,000,000,000	.....	3,000,000,000
Real estate mortgage bonds	5,000,000,000	5,000,000,000	.....	.....	.....
Individuals	5,000,000,000	1,000,000,000	4,000,000,000	.....	4,000,000,000
Total	$36,295,000,000	$14,844,500,000	$21,450,500,000	$11,956,500,000	$9,494,000,000

[1] Eligible as collateral for loans from Federal home loan banks.
[2] Includes stock savings banks eligible for membership in Federal home loan banks.

Prudential, ultra-loyal Princeton Alumnus and prominent New Jersey Republican, said, "We are anxious to cooperate with the Home Owners' Loan Corp. and to render assistance to home owners wherever possible. . . . While we cannot overlook the fact that the Prudential Insurance is acting as the trustees of millions of policyholders whose funds have been entrusted to it, and the safeguarding of those funds must necessarily be its guiding principle, with due regard to that obligation, the Prudential has and will continue to sympathetically consider each case presented to it."



H.O.L.C. explained in Philadelphia

He added that if the offer of H.O.L.C. Bonds "should represent the full amount of our claim, the bonds will be accepted. If such offer of bonds should represent an amount less than our claim, such offer will be given due consideration, having in mind the social and practical purposes of the Home Owners' Loan Act, as well as our obligation of trusteeship to our policyholders. We must be just before we can be generous, and it is our intention to analyze each case carefully with a view to exercizing such discretion as will do no injustice to either borrower or policyholder."

The market price of the H.O.L.C. bonds will of course play an important part on the mortgagees' decisions. The first bonds sold changed hands on the N. Y. Real Estate Exchange at 85. But because few bonds have been actually issued, no great significance was attached to the sale. The bonds will be helped as far as price goes by the willingness of the H.O.L.C. to accept them at face value in the payment of indebtedness and by the recent decision of the R.F.C. to lend up to 80 per cent of their face value. A potential factor in their price is the Thomas (inflation) amendment which gives the Federal Reserve system the right to buy up to $3,000,000,000 worth of Government bonds or of bonds of corporations in which the U. S. is the chief stockholder, such as the H.O.L.C. Meanwhile many institutions are awaiting the decisions of bank examiners, building and loan commissioners and life insurance commissioners as to whether the bonds can be carried at face value in the books. The building and loan associations of Washington, D. C., are under the jurisdiction of the National Bank Examiner and last month were anxiously awaiting the Comptroller of the Currency's ruling on this point. State officials will probably be greatly influenced by his decision, although they are not bound to follow it.

Although he did not say so in so many words, Ward B. Whitlock, president of the U. S. Building and Loan League, hinted that his association did not want to carry the bonds and considered them less sound than the mortgages which they would supplant. Said he: "Building and loan officials are asking bankers all over the country if they will purchase the bonds from them and at what rates. Building and loans have confined themselves to conservative, home-mortgage investment almost exclusively and naturally are very interested in the attitude of leading banking institutions and the investing public who may buy the bonds."

No fair statement of what the attitude of savings banks will be can be made. It would be unreasonable to call typical the following statement which A. Edward Scherr, assistant treasurer of the Brooklyn Dime Savings Banks, made in the bulletin of the New York Savings Banks Association: "When values are high and property sells at profitable prices, the mortgagee is not invited to share in the profit; it is not fair to ask him to share the losses."



Wide World

Mortgage relief demanded at Albany

Appraisals. The H.O.L.C. has ruled that "Appraisers are instructed to give equal weight to 1) the market value at the time of the appraisal; 2) the cost of a similar lot at the time of the appraisal, plus the reproduction cost of the building less depreciation; 3) the value of the premises as arrived at by capitalizing the monthly reasonable rental value of the premises over a period of the past ten years."

For illustration, the regulations say: "Let us suppose that a typical American home was soundly worth, in 1928, $10,000,

and therefore, at that time, when there was a fairly normal market value for homes, had a market value of $10,000. Assume that this house today has a market value of $5,500. The present cost of such a lot, plus a reproduction of the house, less depreciation, gives us a value, we will assume, of $6,500. We assume that the house had a rental value of $100 a month ten years ago and now has a rental value of $50 a month, and that the average rental value has been $75 a month, and, capitalizing these rentals on the basis prevailing in the community, arrive at a value of $7,500. We add $5,500 plus $6,500 plus $7,500 and have $19,500 divided by three and have an appraisal of $6,500. On this property the H.O.L.C. can advance $5,200 in bonds."

The Law. What the H.O.L.C. may fail to do, the law may soon be doing. In many States where there is no mortgage moratorium, measures were being taken last month to stay all foreclosure sales until it had been determined whether or not the home was eligible for H.O.L.C. aid. Whether or not some liberal-minded judges may continue to postpone the foreclosure if they find that the home is eligible but did not receive H.O.L.C. aid remains to be seen. In addition to this, the swing towards mortgage moratoria received a big impetus last month when the State of New York's Senate passed a one-year mortgage foreclosure moratorium and curbed deficiency judgment abuses. The attitude of the home owners who stormed the Capitol shouting for aid was that big mortgagees, notably the guaranteed mortgage companies, had been legally relieved of their obligations but were not relieving the mortgagors of theirs.

HOUSING

THE FIRST HOUSING APPROVALS

by the Public Works Administration are announced. What Boston, New York and Philadelphia will get.

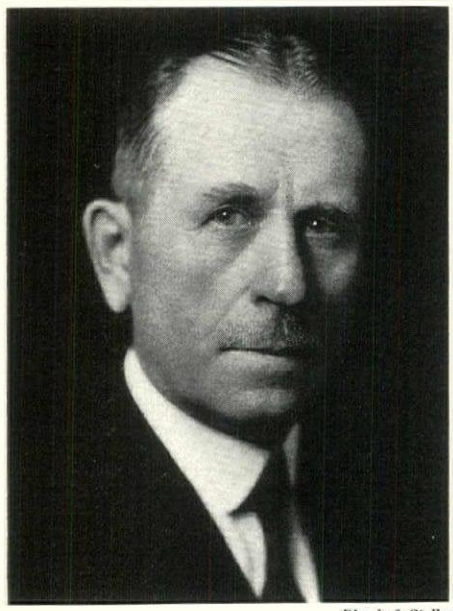
THE Public Works Administration last month gave tentative approval to a handful of housing projects. In each case there are some details still to be worked out; details of financing and/or construction. But the assumption is that the announcement of even tentative approval means that Secretary Ickes is sure that the projects will go through soon.

The announcements contained surprises. Conspicuously absent were some of the mammoth schemes whose backers have practically moved to Washington. In making the announcement however Robert D. Kohn stressed the fact that approval of some loans should not be interpreted as rejection of others. He added that 35 projects are being carefully studied and that within "a short time many more projects of equal or greater importance will be ready for similar recommendation."

There were five loans, four of which represent housing in the usual sense. One was a $40,000 loan to a corporation in Kansas for what will be a superior type of subsistence homestead (see page 242). The other loans are: $845,000 for Philadelphia; $3,500,000 for Boston; $2,025,000 for Brooklyn, N. Y.; $3,210,000 for Queensborough, N. Y.

All but the Brooklyn project will be built on vacant land, accomplishing slum clearance by the simple process of removing people from the slums. The highest of the buildings will be only six stories and they will be of semifireproof construction.

Boston. Official name of the limited dividend (6 per cent) corporation which will own the project approved for Boston will be Neptune Gardens, Inc. Architects associated with the enterprise include William Stanley Parker, president of the Boston Chapter of the A. I. A. and chairman of the committee which drafted the



Blank & Stoller

William J. McDonald

architectural N.R.A. code; John Nolen, city planner of Cambridge; Fred H. Fay, chairman of the Boston City Planning Board and a member of Fay, Spofford & Thorndike; and J. L. Clapp of Blackall, Clapp, Whittemore.

The total cost of the project is estimated at $4,000,000. It is understood that the $3,500,000 Public Works loan will be at 4 per cent and will have been repaid in 30 years. The plan calls for 760 residential units all of brick construction. They will include two-story homes, two-family houses and three-story flats. The project will use 44 acres, of which only 17 per cent will be covered by buildings. The homes will be next to a large park (World War Memorial Park) and near a playground. A small library will be erected and garden plots made available to tenants. Average rentals will be around $8.50 a room. Although the land is some distance from the center of the city it has excellent transit facilities and is only 11 minutes away. The Boston Real Estate Board and Board of Trade are said to have endorsed the project, although many a prominent Bostonian knew nothing of what was afoot until three- and four-column headlines bleated the news.

Chief backer of the project is William J. McDonald, 63, Boston real estate operator and harness-racer. Mr. McDonald was born in Burke, N. Y. When he was 18 and had only a common school education, he went to Nashua, N. H., to become a barber's apprentice. He later got the barber shop concession at the now defunct Adams House, the old Boston hotel where Governor Coolidge had a $3-a-day room.

About 35 years ago Mr. McDonald opened a real estate office on State Street. Imaginative and active, he has pushed many a project, most of which have had their moments of glory as front-page, right-hand column news. Supposedly fortified with non-Boston money, he was identified with the Park Square Building, largest office structure in New England.* Although this building has always been a success, its owners recently traded it for other property. The McDonald name was also associated with New England's biggest cinema palace, the Metropolitan Theater (and office building).

Ventures with which Mr. McDonald's name was connected but which never reached fruition included the "New England Department Store" which was much talked about and was intended for the Park Square region. The venture was abandoned when the State halted stock sales on a technicality. In 1930, Mr. McDonald was identified with the $30,000,000 Medical-Surgical-Dental Center, to be built near the Copley-Plaza. Steel was ordered and the first-floor frame placed when the depression brought an end to the project. Mr. McDonald at one time was also enthusiastic about plans for a civic center development in the Copley Square area which entailed an island in the Charles River basin to serve as central support for a new bridge to Cambridge. Associated with Mr. McDonald in business is his son-in-law Winthrop R. Scudder.

The land on which the housing project will arise (presuming all remaining require-

* At the turn of the century and before the erection of Boston's South Station, the Boston & Providence's depot stood in Park Square on what is now about the site of the Statler Hotel and its yards occupied what is now called the Park Square development.

ments are met) has been held by speculators for many years. About 15 years ago some speculators organized the East Boston Land Co. and acquired 1,000 acres of marshes and flat-lands handy to tidewater and, they thought, ideally suited for industry. Industry however never settled there and in 1926 unpaid taxes on the land came to $252,000. That year Mr. McDonald's friend Malcolm E. Nichols became mayor and two years later the land was sold, tax clear, for $100,000 to the newly organized Boston Port Development Co., of which Mr. Nichols is president.

A few years before this the State had made land for the Boston Airport close to the 1,000-acre site. Sensing the increasing value of the land, Mr. McDonald opened it as a public dump and it was soon filled in and seven or eight feet higher. Oil companies became interested and public hearings were held on a petition for a permit to locate a 90,000,000-gal. tank farm there. Mayor Curley refused the permit after 1,000 Noddle Islanders (tenement dwellers in East Boston) flocked to the City Hall in protest. At another time Mr. McDonald was ready to develop the land as a subdivision. The city laid streets and sewers but then a zoning ordinance prohibited the erection of three-story frame houses on the land and the idea was abandoned. Nothing could be learned last month as to what the Boston Port Development Co. charged its Neptune Gardens, Inc., for the 44 acres. But observers commented that if the land were donated it would be a small price to start things moving on the other 954 acres.

Brooklyn. The corporation which will borrow $2,025,000 for housing in Brooklyn is the Spence Estate, Inc.; which is more properly Jesse L. Spence. Employing Seelig & Finkelstein as architects, the corporation has built and managed several very successful Brooklyn apartment houses. A frequent feature in them is 18-ft. high basements, equipped with handball courts and above-ground windows. This feature will be incorporated in the housing project.

The 200 x 700 ft. site covers a block adjacent to transit facilities and shopping center. On it at present are 28 4- and 7-story cold water flats, numerous shacks. In these are 316 bedrooms with no ventilation at all, 12 bathtubs and one tenant with a lease.

The Spence plan will provide a square of buildings with a court in the center. Every apartment will have at least two windows at different angles. There will be 18 elevators, steam heat, incinerators, refrigerators, 9-ft. ceilings. On a typical floor, 64 of the apartments will have 4 rooms, 24 will have 3 rooms. The estimated room rental will be $11 or less.

The loan will equal 66 per cent of the cost. "We have the cash for the rest," says Mr. Spence. The plans were drawn in 1932 and presented to the State Housing Board. They were approved last September and three months later the R.F.C. received an application. Mr. Spence saw N. Max Dunning and A. Mackay-Smith in Washington about his project. He saw nobody else, tried no string-pulling, let his plans and figures talk for him.

Philadelphia. The American Federation of Full-Fashioned Hosiery Workers is the backer of the Philadelphia housing project. It already controls the land and is prepared to make a large investment in the project. In addition, it is said that some Philadelphia tycoons will contribute to the project. Much of the credit for pushing the project through goes to Architects Kastner & Stonorov, who prepared a special booklet on the project which did admirable special pleading through the presentation of statistics which showed the need of such housing in contrast to owned homes.

The site covers 4½ acres in Kensington. Rentals will be around $8.40. The housing will consist of three-story semifireproof buildings containing 292 apartments with 1,074 rooms (see page 161). The union officials report that present space applications assure full occupancy.

Three buildings will comprise the project, each with 300 families. Only 25 per cent of the ground will be covered and there will be plenty of garden space, two tennis courts, sublevel garages, a kindergarten and social hall, swimming pool and lawns. The unit will have a cooperative grocery and electricity, gas and other household necessities will be distributed at wholesale prices. The cost in addition to the loan may run over $1,000,000. Official name of the limited dividend company is Nira Housing Corporation.

Queens. The $3,210,000 loan for Queensborough will build ten six-story semi-fireproof elevator apartments with 1,632 residential units, 5,644 rooms, on vacant lots two blocks from a Manhattan subway entrance. Project sponsor is the Dick Meyer Corporation, largest property owner in Queens County. The site consists of 801,340 sq. ft., of which buildings will cover only 27 per cent. As presented to the State Housing Board last year, the plans prepared by Architect Theodore Englehardt estimate an approved land cost of $1,585,000 and a building cost of $5,212,076. Room rates will run at around $11 per month. Last December the Long Island Real Estate Board called the development one that "will be of permanent benefit to the whole community." Now, fearing regular landlords will lose tenants to housing, it wishes the Government would lend more of its money for subway burrowing.

✚ From the ownership of New York City to Fred F. French Operators, Inc., last month went the bed of Hamilton Street. The consideration of $55,000 was about $2 per sq. ft. The purchase makes the final plot needed by Builder French for the construction of his $8,000,000 Knickerbocker Village, to be financed with R.F.C. money. It is understood that the R.F.C. placed many special requirements on the loan but that Mr. French was able to meet them all. Thus last month it still seemed that Knickerbocker Village would be built.

M. L. WILSON NAMED

Administrator of the subsistence homestead appropriation.

THE man was found last week for one of the most important unfilled positions in the Public Works Administration. He was Milburn L. Wilson, 48, head of the Department of Agricultural Economics of the Montana State College of Agriculture. The position: Administrator of Subsistence Homesteads, with $25,000,000 to spend in furthering the Administration's program of sound population decentralization.

Loudest shouter of "Go back to the farm, young man" has been Publisher Bernarr Adolphus Macfadden. Many a Washington observer feels that Mr. Macfadden was instrumental in getting the $25,000,000 allotment written into the Public Works Bill. When Franklin D. Roosevelt was Governor of New York he often listened to Publisher Macfadden expound his ideas in this direction. When the President was considering the Public Works Bill, Mr. Macfadden made a junket to Washington where he was a one-night White House guest.

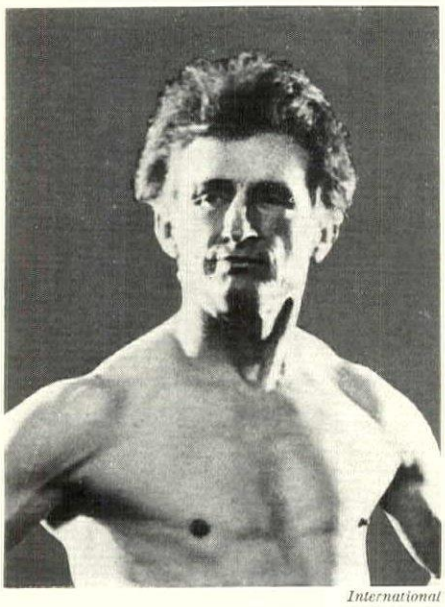
Last month Publisher Macfadden was still strumming his editorial chords on the subject, far from satisfied with things as they are. In his *Liberty* he spoke of the appropriation as "a measly little $25,000,000" and said "Now if this huge sum (the $3,300,000,000) or a larger part of it were spent in sending the unemployed back to the land they would be permanently stabilized; they would be sure of wholesome, vital food and a place to sleep. They would be definitely settled in a home. They would not be traveling in mobs. Furthermore, the activity necessary to make a living on the land tends to make people healthy, normal and happy."

Another *Liberty* writer to give a boost to the movement was Publisher Macfadden's star columnist, Anna Roosevelt Dall. In her "Happy Days" column she said: "I think most economists agree that we must to a large extent depopulate the cities. . . . While the women may have to endure some hardships at first . . . with cheaper electric rates as a decided possibility, women can look forward to the comforts of the city in the near future."

With so many a person who has never held a hoe howling for a back-to-the-farm movement, the Administration was careful to place the $25,000,000 in the hands of a man who understands farming from the roots up. Tampering with a people's entire mode of life is dangerous and William Hartman, economist of the Department of Agriculture, showed recently in a special report that the idea that it is an economic procedure to put people on the land to make a full living is a fallacy.

Administrator Wilson, considered the

Grain Trust's grain expert, knows the problems of farming at first hand. He was raised on an Iowa farm during the Corn Belt's heyday. In 1907 he was graduated from the State College and went to Nebraska where for three years he was a tenant farmer. Then he joined the trek of Middle Western farmers heading for the wheat regions of the Northwest which had just been thrown open by the Government. He homesteaded in Fallon County, Montana, and managed a large wheat-stock farm. Two years later he became assistant in agronomy at the Montana Experiment Station in Bozeman (now the home of the Agricultural College). He



International

Homestead Booster Macfadden

"A measly little $25,000,000"

was the leader in the development of the State's county agent system and his publications and demonstrations of equipment and operation testify to this realistic attitude about farming. In 1924 he was selected by Secretary H. A. Wallace to reorganize work in farm management and cost accounting for the Department of Agriculture. Rugged and bronzed, Administrator Wilson does not look like the Professor which he is. He is frugal with words and speaks slowly and his friends feel that under him the $25,000,000 will be carefully spent.

✚ A housing loan which probably could have been made under the subsistence homestead allotment was approved by the Public Works Administration last month: $40,000 for suburban housing in Hutchinson, Kan. The money will be used for the construction of 20 four- and five-room homes on a 40-acre tract. The houses will be sold on a 16-yr. basis.

Sponsor of the plan is C. E. King, young Hutchinson businessman and real estate promoter, connected with the McArthur-King Coal, Feed and Ice Co. He has already constructed 20 similar homes on the edge of the town — a development known as King's Gardens. The new homes will be part of the same development. Later Mr. King plans a housing project for the really destitute. Hutchinson has a population of 27,000 and is on three railroads. In a farming territory, it has large meat packing plants because of the proximity of salt mines.

The cost of each home and land runs around $3,000, with the improvements costing about $2,250 and the land $750. The sale price allows an additional 5 per cent to pay for costs and 6 per cent interest is charged on unpaid balances. The operating schedule of the company allows for a 20 per cent delinquency in payments, which is much greater than that experienced in the adjoining tract. In addition to the loan, the corporation will receive $19,000 from the promoters, $3,000 as down payments on the homes. There is no promotional charge and the architectural and inspection fees will come to only $600. The only salary will be drawn by Mr. King for collections and clerical costs and it will not exceed $300 a year. The site is half a mile from city limits, has good soil, soft water, natural gas, electricity, and is adjacent to a school. Chief delay on actual commencement of the work is the fact that rising building costs (see page 238) have made an adjustment necessary in the amount of the loan.

✚ One of the last self-liquidating loans to receive R.F.C. approval was $150,000 for subsistence homesteads near Dodge City, Kan. (*The Architectural Forum*, July). Last month the actual funds had not yet been received and the impatient sponsors of the project were unwilling to guess when they would be. "Washington red-tape" and a depleted R.F.C. organization were blamed.

✚ "Industry may be revolutionized in 20 years by the subsistence homestead movement," said Col. Louis McHenry Howe last month in a radio talk. He added that "In any other year, when we were not busy



Publications Dept., Montana State College

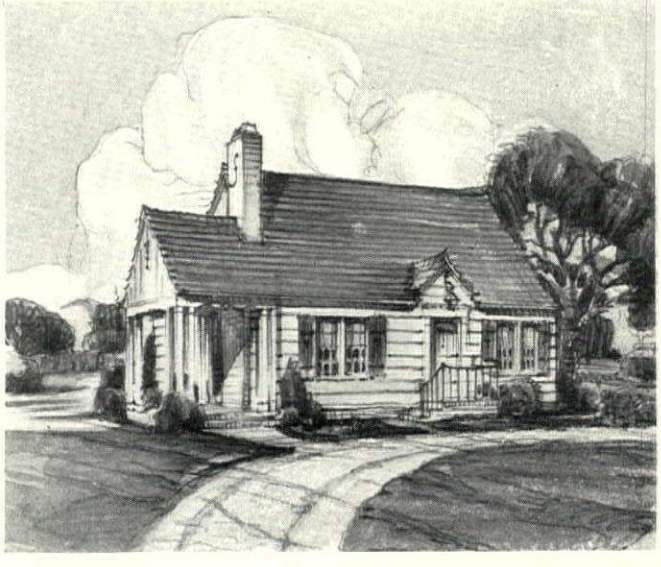
Professor Wilson

Mrs. Dall spoke of hardships

with our Blue Eagle drives and all these tremendous efforts to coordinate industry and regulate finance, the subsistence homestead plan would be occupying pretty nearly the same space in the newspapers now occupied by the N.R.A. . . .

"To establish these communities is obviously a wonderful opportunity to see what the Government can do by way of setting an example. So you see that all this thing is the beginning of a great movement to abolish the impossible conditions of city manufacturing and bring back the old conditions which prevented the employes of seasonal production manufacturies from ever starving. . . .

"It is certainly not the purpose of this plan to provide cheap labor for anybody, or to encourage a low wage scale. The idea is to make life easier for many who now find it very hard indeed."



One of Architect Ken G. Miller's designs for Hutchinson's housing. This home has a living room (13'x17'6"), two bedrooms, back and front porches, a fireplace. Six basic plans will be used, with slight variations, for the 20 homes.

EARNINGS

LAST month's financial pages recorded first half results for numerous corporations having a stake in the building field. For the most part the reports showed earnings rather than losses, and almost all showed smart gains from 1932's first half. Below are some representative reports:

Allegheny Steel made $150,980 in the first half against a 1932 first-half-loss of $537,163. The company's well-known alloys "Allegheny Metal" (18 per cent chromium, 8 per cent nickel) and "Ascoloy Metal" are used chiefly by the automobile and electrical industries but the company finds a growing furniture, restaurant, cafeteria and clinical demand for its products and many a new building has its steel for exterior use.

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The 55-yr.-old *American Encaustic Tile Co., Ltd.*, which supplies 25 per cent of domestic floor and wall tile, lost $282,703 in the first half against $366,164 in the first half of 1932.

• • •

The American Rolling Mill Co., whose 1,251,000-ton sheet steel capacity gives it 20 per cent of the industry's output of this particular product and ranks it the biggest independent in the line, lost $659,325 in the first half against a $961,229 loss in the first six months of 1932. The second quarter however showed a $307,268 profit against a $389,312 loss in the same period of 1932. In 1932, 81 per cent of Armco's production was in sheet steel and the automobile industry was its biggest customer, taking 25 per cent of the output. However the building and refrigeration industries are also large users of the product. In 1928 the company perfected a continuous process for rolling steel which is licensed to the most important companies in the field but has not yet shown its full profit possibilities, as large volume of production is essential to it. The company at present is refunding $15,000,000 worth of 4½ notes due Nov. 1 with 5 per cent convertible debentures. Dr. Anson H. Hayes, director of research, recently revealed that Armco has perfected a deep drawing sheet metal "with physical properties new to ferrous metals and of great importance to the metal stamping world."

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The Armstrong Cork Co., with six factories in Spain, where most of the world's cork grows, reported a net income of $1,070,284 against a loss of $557,611 in the first half of 1932. Four hundred and thirty-six thousand dollars of the earnings however came from the appreciation of other than fixed assets through foreign exchange fluctuations, a fair accounting treatment since similar depreciations were previously carried through profit and loss. In his report to stockholders, Armstrong President J. J. Evans said that while the company, which is employing over 5,100 men, is in hearty sympathy with the N. R. A., the task of conforming is "exceedingly complex inasmuch as there are more than fifteen trade groups with which your company will be associated." The company, in addition to its linoleums, cork tiles and other floor coverings and its insulation materials for buildings and refrigerators, makes gaskets, life belts, high temperature coverings for steam pipes, marine life belts, corks and stoppers, cork cots for spinning machinery. Brewery demand has of course increased Armstrong's sales of crown caps and insulation material for brewery equipment. Through James Williamson & Son of Lancaster, England, the company has a wide distribution of flooring in the British Empire, including embossed molded hard-surfaced inlaid linoleum.

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The Art Metal Construction Co., big makers of office furniture and equipment (other than business machinery), hollow metal doors and trim, library partitions, architectural bronze and elevator enclosures, showed a loss of $111,718 against a $264,771 deficit in the first six months of last year. The second quarter loss was $61,133 against $102,389. The company's best year was in 1929 when it made over $1,000,000. Art Metal Construction is not to be confused with Art Metal Works, Inc., of Newark, makers of 12,000 articles ranging from Ronson cigarette lighters through ecclesiastical statuary, chandeliers, toys and radiator caps.

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No stake in the building industry is held by *Bon Ami*, but it earned $312,909 in the second quarter against $304,108 in the same period a year ago, which might be taken to mean that business revival has brought with it cleaner floors, cleaner walls, cleaner pots and pans. Employing only between 200 and 250 people, Bon Ami is the leading miner and user of feldspar, digs for it in New Hampshire, North Carolina and Ontario. On its board is Alfred William Erickson, big factor in Congoleum-Nairn and partner of the advertising agency of McCann-Erickson.

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Chicago Pneumatic Tool Co., which is bidding for the independent electric business of many a building, and which usually has some equipment on a construction job, lost $275,166 in the first half against $294,835 in the same period of 1932. The second quarter showed a $87,627 loss against $196,094. Although in March, 1932, Charles M. Schwab resigned from the company, which was long considered his corporate pet, he is thought still to be its largest stockholder and to be represented on the Board by J. H. Ward, also a director of Bethlehem Steel. President A. H. Jackson, who has held his post since 1918, was formerly with Bethlehem.

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The first interim report ever made by *National Lead Co.* showed a profit of $1,698,352. This compares to a profit of $3,301,611.88 in all of 1932. At the suggestion of the New York Stock Exchange, National Lead no longer counts as "other income" dividends on its own stock held as an investment. Its famed line of "Dutch Boy" white lead was expanded in 1932 to include oil colors. Other National Lead products include Babbitt metal, piano key leads, window weights, storage battery oxides, castor oil.

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St. Joseph Lead Co. ran close to last year, with its $1,303,212 deficit for the first half being slightly better than the $1,448,901 deficit in the first half of 1932. A miscellaneous St. Joseph activity is the raising of hogs and cattle on 65,000 acres of land on which it has the mineral rights. The company refines one-third of the lead it produces, turns the rest over to American Smelting and Refining. It handles the output of Bunker Hill & Sullivan Mining.

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The half-year *Sears, Roebuck* report revealed that its home building division operated a loss. The company, however, showed a $1,619,000 profit against a $2,120,000 loss in 1932's first half.

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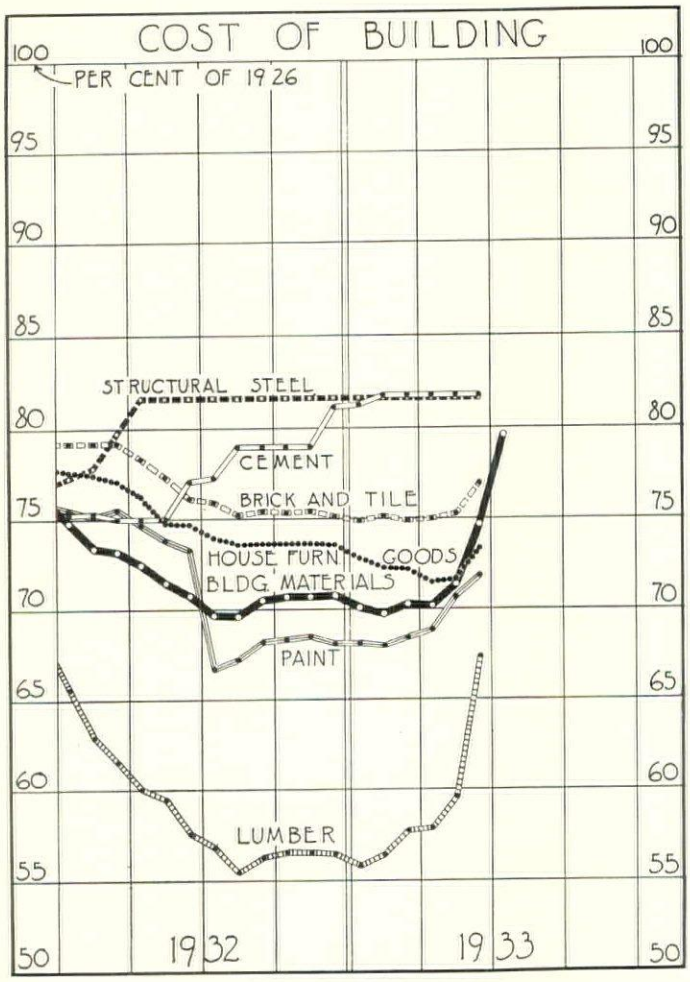
August shipments of *Servel* refrigerators ran 80 per cent above 1932, said President Herbert H. Springfield in reporting a $608,718 profit for the three months ending July 31 against $12,158 in the same period of last year.

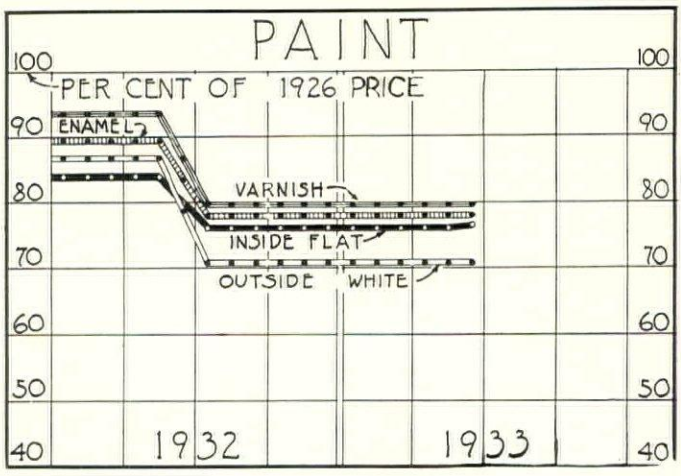
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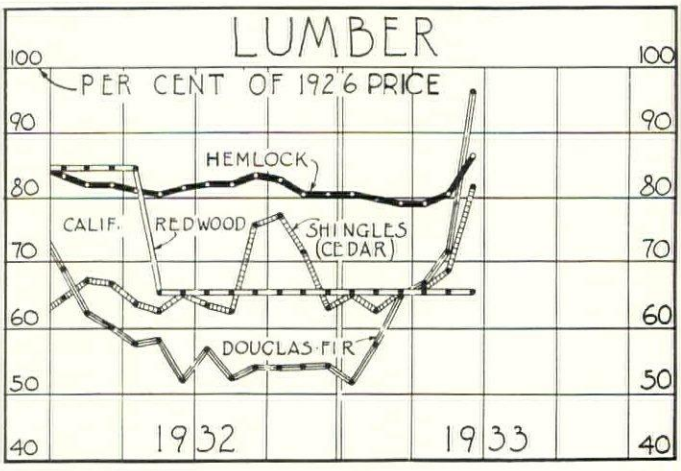
U. S. Gypsum Co., one of the few building material concerns still paying a common stock dividend, made $831,541 in the first half against $963,789 in the same period of 1932. Per share, this came to 47¢ or only 3¢ short of covering the dividend. In June the company bought the McHenry-Millhouse Manufacturing Co. of South Bend, makers of asphalt roofing. This was an important acquisition since it extends this line of Gypsum's activities to the Middle West whereas previously it had been carried on only on the Pacific Coast.

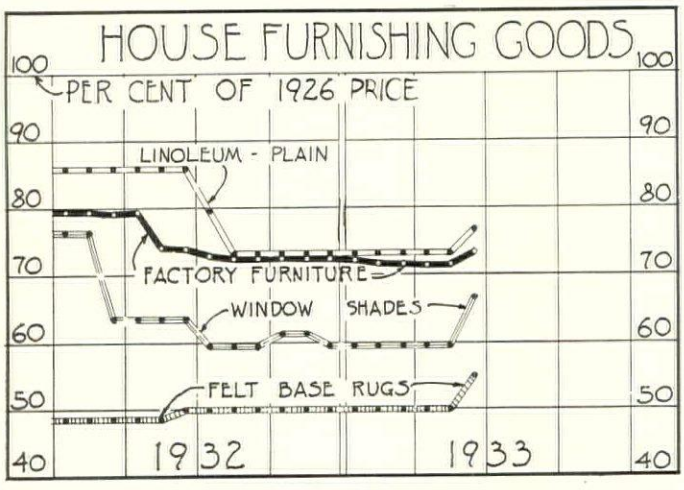
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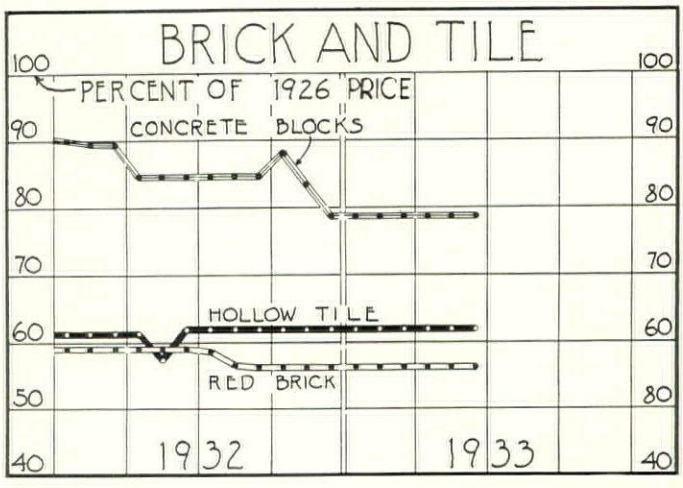
Famed *Yale & Towne Manufacturing Co.*, which represents a business started in 1840, lost $189,417 in the first half against a $338,578 loss in the same period of 1932. The second quarter loss was $82,324 against $179,641. Although the company has expanded in Europe and into some other lines (such as chain blocks and electric hoists and hand-lift trucks), its chief field is still the domestic trade. In 1929 it bought H. & T. Vaughan, Ltd., largest lockmakers in the British Empire.

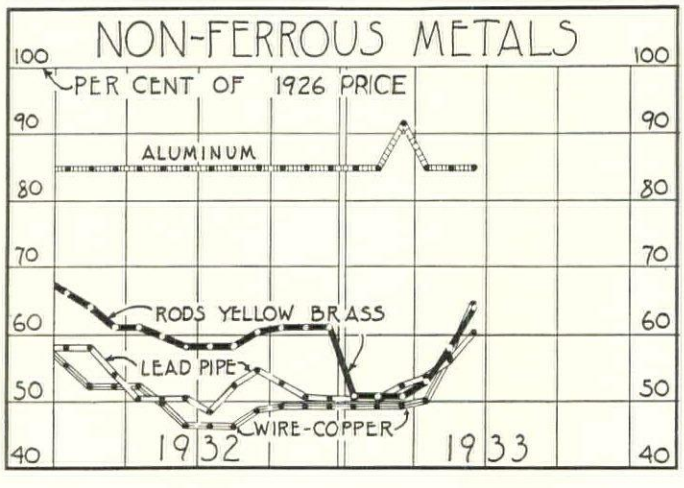

COST OF BUILDING
PER CENT OF 1926
STRUCTURAL STEEL
CEMENT
BRICK AND TILE
HOUSE FURN. GOODS
BLDG. MATERIALS
PAINT
LUMBER
1932
1933

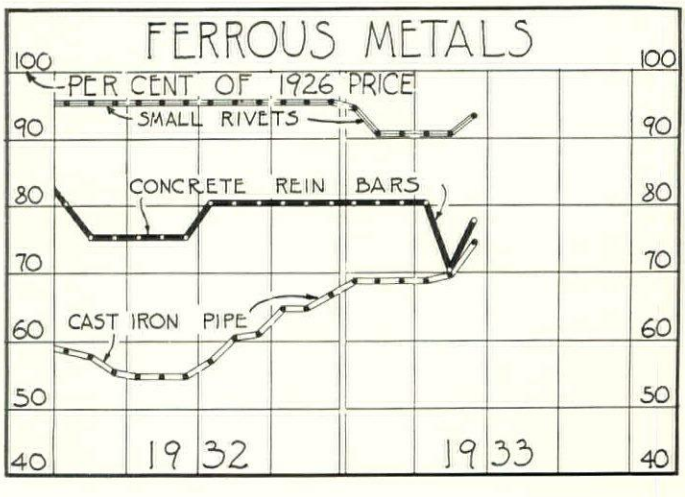

PAINT
PER CENT OF 1926 PRICE
ENAMEL
VARNISH
INSIDE FLAT
OUTSIDE WHITE
1932
1933

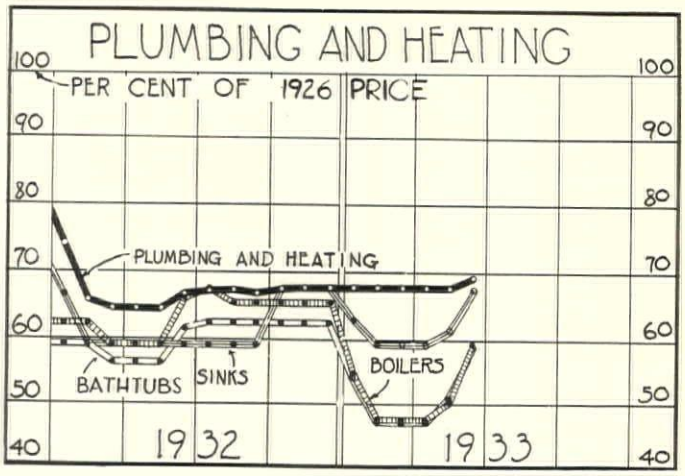

LUMBER
PER CENT OF 1926 PRICE
HEMLOCK
CALIF. REDWOOD
SHINGLES (CEDAR)
DOUGLAS FIR
1932
1933

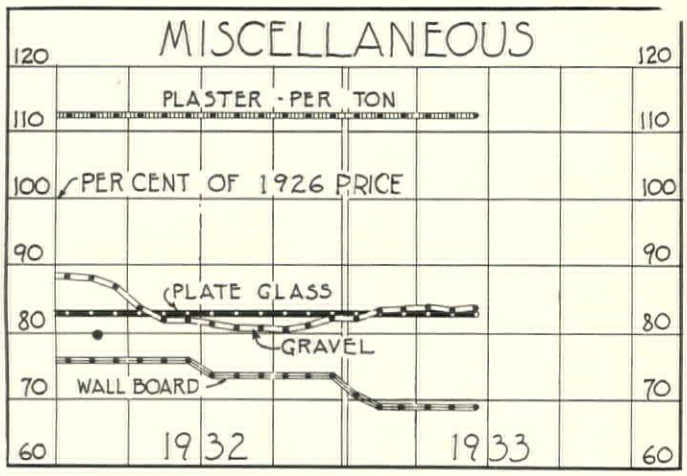

HOUSE FURNISHING GOODS
PER CENT OF 1926 PRICE
LINOLEUM - PLAIN
FACTORY FURNITURE
WINDOW SHADES
FELT BASE RUGS
1932
1933

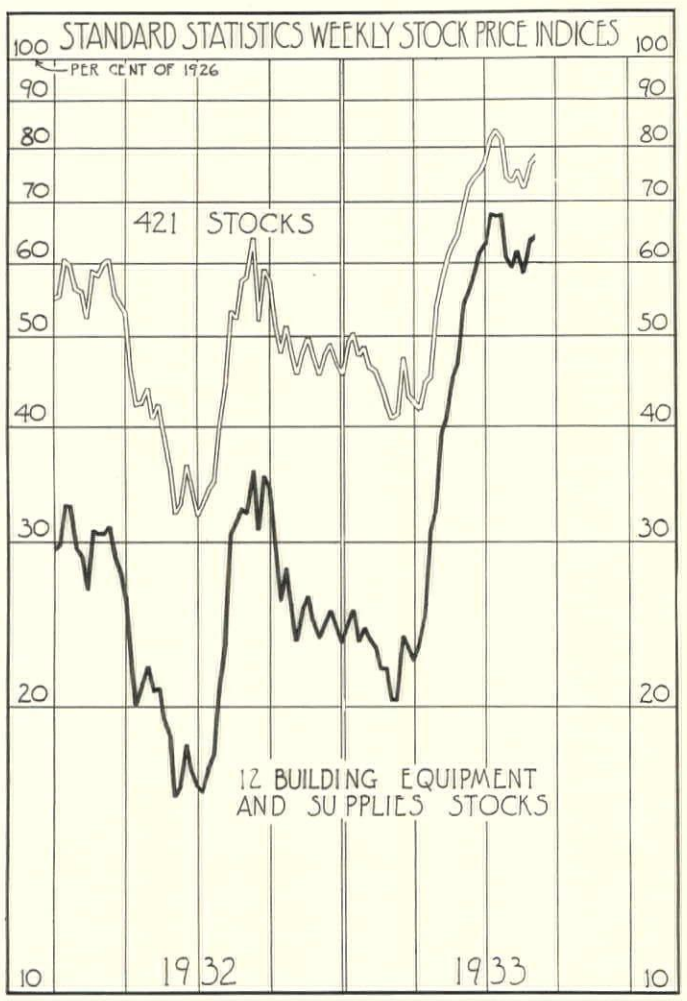

BRICK AND TILE
PERCENT OF 1926 PRICE
CONCRETE BLOCKS
HOLLOW TILE
RED BRICK
1932
1933

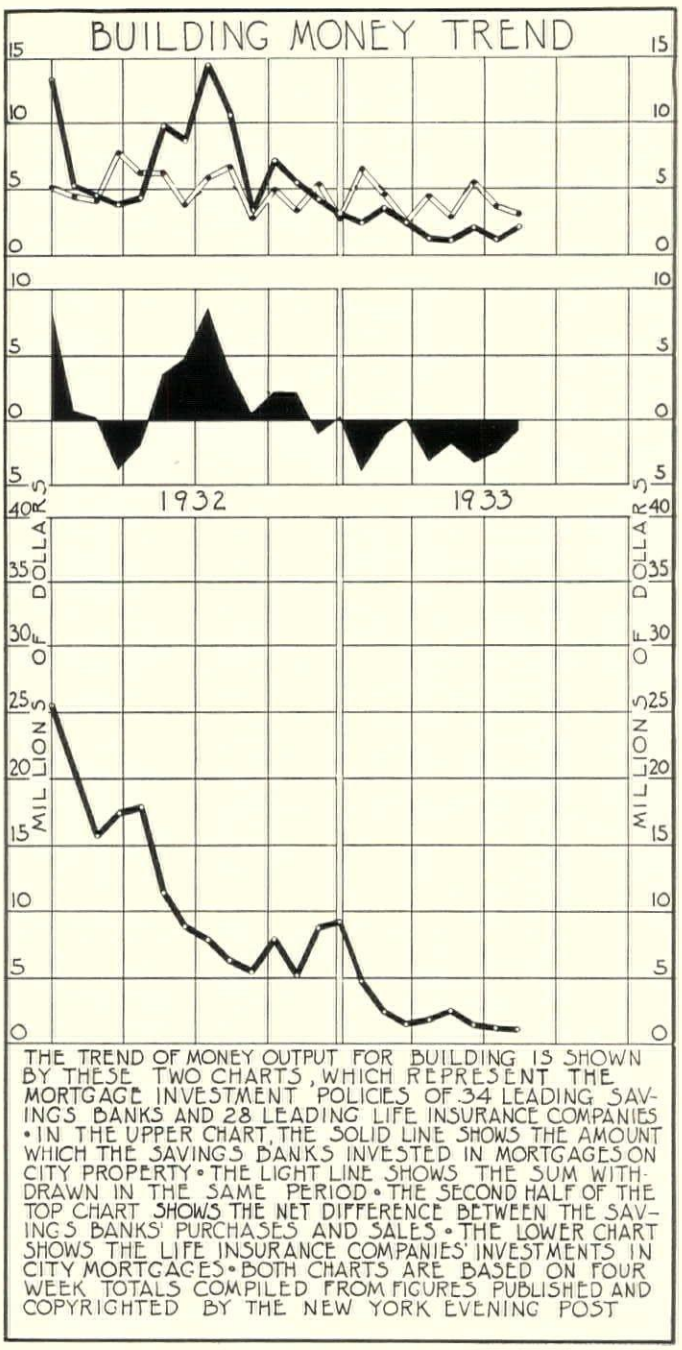

NON-FERROUS METALS
PER CENT OF 1926 PRICE
ALUMINUM
RODS YELLOW BRASS
LEAD PIPE
WIRE-COPPER
1932
1933


FERROUS METALS
PER CENT OF 1926 PRICE
SMALL RIVETS
CONCRETE REIN BARS
CAST IRON PIPE
1932
1933

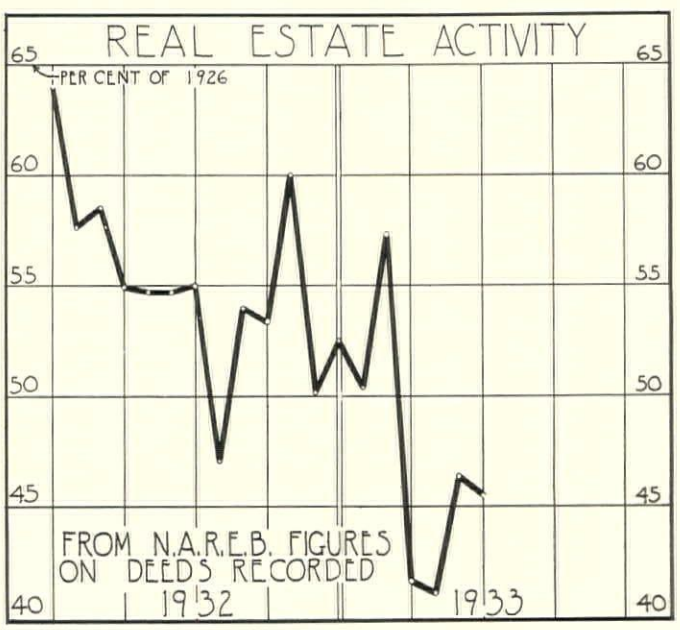








THE TREND OF MONEY OUTPUT FOR BUILDING IS SHOWN BY THESE TWO CHARTS, WHICH REPRESENT THE MORTGAGE INVESTMENT POLICIES OF 34 LEADING SAVINGS BANKS AND 28 LEADING LIFE INSURANCE COMPANIES • IN THE UPPER CHART, THE SOLID LINE SHOWS THE AMOUNT WHICH THE SAVINGS BANKS INVESTED IN MORTGAGES ON CITY PROPERTY • THE LIGHT LINE SHOWS THE SUM WITHDRAWN IN THE SAME PERIOD • THE SECOND HALF OF THE TOP CHART SHOWS THE NET DIFFERENCE BETWEEN THE SAVINGS BANKS' PURCHASES AND SALES • THE LOWER CHART SHOWS THE LIFE INSURANCE COMPANIES' INVESTMENTS IN CITY MORTGAGES • BOTH CHARTS ARE BASED ON FOUR WEEK TOTALS COMPILED FROM FIGURES PUBLISHED AND COPYRIGHTED BY THE NEW YORK EVENING POST



TICKER TALK

One and All:

For a fortnight after the July crash, the market wearily crept up and down, tracing what all chart readers love to see: a perfect triangle or spiral formation. When the apex is finally reached the market breaks out — either up or down. If it breaks out on the up side it may mean that the market is definitely moving into higher territory. Or it may be a false start which will develop into a sharp downward plunge. That is the beauty of chart reading. The chart reader is always right — though his commitments almost never are. In this case the market stepped sharply to a higher trading range and all chart readers indulged in a lot of chest-thumping.

Run of the board room explanation for a resumption of the advance was that there was only one way for the market to move. If N.R.A. succeeds, runs the argument, business is bound to improve and stocks will be lifted on better earning. If it fails, Inflation is a certainty. Well, that would appear to be a pretty nice set-up for one and all. The old rule was to sell a certainty short and profitable it was, too. But that was in the days of a free market and no one has the temerity to aver that we shall ever see a free market again. A few shrewd men are buying bonds, reasoning thus: N.R.A. will probably work out tolerably well; it will put men back to work but corporation profits will not rise appreciably until unemployment is reduced to manageable proportions and buying power rallies. Administrator Johnson has thundered time and again (though business men are slow to catch on) that N.R.A.'s main purpose is to put men to work, not to smooth out trade problems, not to jump profits except in that they aid reemployment.

If unemployment still bulks large after the codes are in effect only one thing will happen: hours will be slashed. Which means in turn higher labor costs. Even present codes brought selling into big employers like Woolworth, General Foods, National Dairy. President Roosevelt does not give a finger's snap for the stockholder. But he will continue to hold the sword of Inflation over the land, and every time it waggles the market will jump.

A taste of what Manhattan speculators are sure to face was seen last month in the Pit with its fluctuation limits and minimum prices whenever a profit hove in sight.

A red-headed friend of mine was shouldering through the usual crowd streaming by the Equitable Building early last month when he was stopped by a neat little Japanese man who asked, in laborious English, the way to the Manhattan offices of Yokohama Specie Bank. Now my friend spent twelve years in the Tokyo branch of Socony and learned to speak the language with considerable fluency. So he directed his questioner to the Specie Bank in his best Japanese. Terror stricken, the little man stared for a moment without saying a word, then fled down Broadway away from the Yokohama Specie Bank just as fast as his short legs would carry him.



Keystone

E. L. Cord

When a one-time automobile salesman has not only climbed to the presidency of a motor company before he is 35, but also controls it, he has a good right to build himself a fine home in Beverly Hills, Calif. From there Errett Lobban Cord keeps the wires humming with his telephone management. The Aviation Corp. fight last winter grew so hot that he came East to take command, but generally he leaves things to his thickset young lieutenant Lucius Bass Manning. While he was at the Waldorf for a few days this month, Lou Manning told me he and his boss were interested in every kind of transportation except that which required rails — subways, tractions, railroads. That was to justify Cord's purchase of New York Shipbuilding, a shrewd deal because it was sure to get a big Navy contract (and did the day after the deal was announced). Next week hard-bitten, loyal Lou Manning quietly announced that he had just bought Checker Cab for his boss. Cabs don't need rails any more than ships, but soon the story was around that Cord was the real buyer of the big block of Kansas City Southern which Paine, Webber recently took off the horny hands of Pat Joyce of Great Western. Lou Manning snorted.

Nash, Hudson, Hupp, Studebaker, Willys, Reo, Packard and Budd (wheels and bodies) would make a pretty nice little motor merger. And that merger is hanging over the industry. Two of the shrewdest promoters that ever wrote a prospectus have the plan up their copious sleeves and are about to open fire. From his offices in Manhattan's Lefcourt Building Archie Andrews is planning to send out a letter to stockholders, just stockholders. His National Investors Management, which is supposed to be something akin to a protective committee, will offer to watch the stockholders' interest for an annual fee of 1 cent a share — and a percentage of whatever appreciation the stock shows within a year! Promoter Andrew's management company will hold the proxy (if not in fact the stock itself) — and that is where the Great Motor Merger comes in.



Promoter Andrews

Associated with him is L. Edgar Detwiller, a youngish man who promoted North American Waterworks and once advanced the engaging theory that if he could bring all U. S. waterworks under holding company control he would effect an annual saving of $125,000,000 in operations and if you capitalized this at 25 times earnings it would add $3,000,000,000 to the total U. S. wealth. Mr. Detwiller used to have a very fine press agent and his opinions on waterworks were widely quoted. Mr. Andrews who has been busy with a new cigar lighter of late, made news last year as the backer of packaged securities (lots of 25 or 50 shares in as many companies which he marketed at an absurdly high premium), backed New Era Motors which owned but did not live long enough to produce the patented Ruxton four-wheel drive. Some of the promotions for which he has never been unduly criticized include Hupmobile, Budd and Dictaphone Products in all of which he is still heavily committed.

Between Sales: "The doctor is supremely confident that he can come back," was his counsel's official report to creditors. But Doc Crawford has promised to stick to cotton, in which he garnered his first stake. Some unimaginative statistician went to work on the Crawford legends with disastrous results. If the little plunger had actually been long 3,168,000,000 eggs, as reported, he would have owned all eggs in the U. S. — except for an odd hundred million or so. . . . Sam Fontaine, one-time financial editor of the old New York *World* is the reputed author of *Mirrors of Wall Street*. Week-end reading.

What happened to the bright young Harvard man who tried to close the Exchange and did? . . . Headline of the month: "Chase Affiliate Valued at $1.95" . . . I know a bondsalesman who made some money — and he works for Dillon Read. He made it buying a block of $5,000,000 British 5½'s from an insurance company. The firm had a bid in London. Gross profit: $37,500. . . . Dow's theory of market action calls for a primary movement in a bull market of 103.5 days, average duration. From April 5, when the rails confirmed the industrials to July 18 is precisely 103 days. A pretty how-Dow-you do. . . . Economic Statistics, Inc., is a business service dealing almost entirely in the supply-demand factor in leading industries. It was organized last Spring by smart young disciples of Professor Lewis Haney of N. Y. U. and the New York *Journal*. They wisely avoid the stock market except when it becomes painfully obvious (they nailed the July break), thus hoping to steer clear of the trouble which constantly plagues some of the standard statistical services.

Don't let the Black Buzzard get you.

Longan Short

CHICAGO'S TUNNEL COMPANY

seeks $9,000,000 with which to enter the steam business. Notes on a little-known service.

In Washington seeking an R. F. C. loan last month was Sherman Weld Tracy, former railroad man who is now president of the Chicago Tunnel Terminal Corp. Few people have ever heard of this corporation, in which the biggest stockholders are Mrs. Lolita Sheldon Armour, widow of J. Ogden Armour (see page 242), and Mrs. Mary W. Harriman, widow of Edward Henry Harriman. And few people have ever seen its property which for the most part lies buried 40 ft. under the street level in Chicago.

The freight tunnels which Mr. Tracy's company operates are 6 ft. high and 7½ ft. wide, walled with a foot of concrete. There are about 62 miles of them, under nearly every street in downtown Chicago. Through them engineers guide small elec-



Kaufmann & Fabry Photos

5,000 fewer trucks are on the streets

tric locomotives (running on a 2 ft. gauge and powered with current from overhead wires) which draw trains of from 10 to 15 freight cars, each of which is 4 ft. wide and 12 ft. long and carries about the same load as a fair-sized motor truck.

The freight handled by the Chicago Tunnel Terminal Corp. is varied. Package freight is collected and distributed between railway and shippers; interstation freight is shuttled back and forth; coal is carried to office buildings where it is dumped on automatic conveyors; ashes and earth from building excavations are collected and disposed of. Through the tunnels run the pneumatic tubes which carry press matter from the City Press Association to daily newspapers. President Tracy recalls that two decades ago the tunnels were used for mail delivery and hopes that they may be so used again.

The rolling stock of this un-famed company consists of 150 locomotives, 3,300 freight cars. On a good day there are some 300 train movements and, the tunnel's management is proud to say, Chicago's traffic is relieved of the congestion that would be caused by 5,000 motor trucks, some loaded with slimy clay from excavations, some with dusty coal and ashes, others piled high with cartons and crates.

Despite the essential character of their service, the tunnels, according to La Salle Street commentators, have never conveyed earnings to their owners. In 1901 the first tunnels were built by an independent telephone company which soon went on the rocks. Reorganization followed, with new money being supplied from the abundant pockets of Messrs. Armour and Harriman. The system was enlarged, 49 connections made with Chicago's many railroads, freight solicited. Then, in 1912, the company was again reorganized. Mr. Tracy was made president. Now he is assisted by Vice President John J. Mitchell, Mrs. Armour's son-in-law.

In many ways the company feels badly about its lack of fame, the fact that few people besides its customers and employes know about it or care about it. In 1928 the management said of its tunnels "They are unheard as well as unseen. Unlike a tunnel through a hill or under a stream, they emerge nowhere. They are reached only by elevators and they end against black walls of concrete. They are apparently known to few beyond the ranks of those they serve. Some of their most pronounced virtues — the relief of traffic congestion, for instance — are negative. They would have to vanish or cease operating to be missed, but, alive and present, they are . . . an accepted public servant which does its work so well that it causes no trouble.

"Other franchised corporations call attention to themselves in many ways and often enough. Their services reach into their homes. They are in sight on the streets . . . . The tunnel company however . . . is underground, silent, and, unfortunately, little known."

In Washington, Tunnel President Tracy sought funds to put his faithful public servant into a new line of business. In May, quietly, the corporation received a $4,625,000 loan from the R. F. C. Last month efforts were being made to increase the loan to $9,156,000. These funds, if obtained, will be used for the construction of a central steam heating system for Loop buildings. The estimated cost is $7,000,000 and report had it that last month the Tunnel Corporation bought a $700,000 site at Randolph Street and the lake front from the Illinois Central R. R. The company plans to lay 24-in. pipes beside their tracks and is confident that the revenue from steam sales will offset the loss of coal and ash traffic. Because the steam plant will be on a very prominent corner, Chicago's architects last month were wondering who would get the job, how he would solve the problems involved.

Chicago Tunnel's heating plant would not be Chicago's first. About 30 years ago the Commonwealth Edison Co. was having trouble selling power to buildings which had been making their own, for they naturally said, "What's the use of saving one-third of our electric costs if we have to keep our boilers for heat?" The answer was the Illinois Maintenance Co., stock of which is owned entirely by Commonwealth Edison. The company has made no concerted campaign for new business but among its clients are about 75 large buildings, including the Republic Shops Building, 208 South La Salle Street (formerly the Continental and Commercial Bank Building), the Insurance Exchange, the Century Building and the Commerce Building.

An exchange is made with the Palmer House which sometimes buys steam from Illinois Maintenance, sometimes sells to it. During the creation of the new Field Building the company is furnishing steam, although upon completion the building will have its own plant.* Chicagoans wondering what competitive situation might arise noted that John J. Mitchell of the Tunnel Co. is also a Commonwealth Edison director.

* The $15,000,000 Field Building has long been the only construction project in the Loop but last month the second project within a year got underway. No skyscraper, it is a $70,000 taxpayer being erected on the site of the famed old Portland Block which was torn down to escape taxes. The site owner is Anna Sears, widow of one of the founders of Sears, Roebuck & Co. Architect is Floyd E. Daugherty. The first floor will have several stores while the second floor tenant will be Frederick H. Bartlett Realty Co., a subdivision organization with a record of annual vacant lot sales aggregating several millions during boom years.



X marks the spot where these excavators dump their shovelings. The pipe carries it directly to the waiting tunnel trains which quietly haul it away.

BUYERS AND SELLERS

CHICAGO'S BIGGEST

recent real estate deal sets a new basis for values.

In Chicago last month was consummated one of the biggest Loop real estate deals in recent years; biggest in cash, biggest in names involved:

Bought: The fee to the northeast corner of State and Madison Streets, considered by Chicagoans as "the world's busiest corner." The 53.2 x 150.5 plot forms a portion of the land upon which stands the Mandel Brothers Department Store. Marshall Field acquired it in 1876 for $53,390.

Price: $1,000,000 cash.

Vendor: The Northern Trust Co., acting as trustee of the $5,000,000 estate of the late Lady Ethel Field Beatty, daughter of Marshall Field. The sale was made in order to provide a portion of Lady Beatty's $1,000,000 bequests to her husband and three sons.



Keystone

Vendee Armour

Vendee: Lolita Sheldon Armour, widow of Meat-Packer Jonathan Armour.

To Chicago real estate men the deal was important as affording a basis by which to judge State Street values and by which to seek lower assessments. The property which Mrs. Armour bought was assessed in 1931 at $2,029,195. It is leased to Mandel Brothers until the year 2007 at $60,000 a year, so that the transaction is on a 6 per cent basis compared to the 3 to 3½ per cent basis for which many similar fees were bought before the depression. Chicagoans recalled that the most recent comparable State Street fee sale, in 1931, was also on a 6 per cent basis.

That Mrs. Armour could pay $1,000,000 surprised nobody who is familiar with her recent fortunes. When her husband died in 1927 with the dubious distinction of having lost more money more rapidly than any other man, Mrs. Armour gave up practically all her fortune in settling with his creditors, sold her great Lake Forest estate and moved into a flat on Sheridan Road where she entertained with dignity and pride.

One asset the creditors turned down as without real value was 400 shares of the Universal Oil Products Co., formed to exploit the cracking process of a man whose lawful and proper name is Carbon Petroleum Dubbs. Mr. Armour had put about $3,000,000 into the company and had put up the shares as security for a $1,000,000 loan to his wife when he needed money badly. In 1931, after a conference at the Drake which lasted well into the evening, Standard Oil Co. of California and Shell Union Oil Corp. bought the Universal Oil Co. for $25,000,000, of which $8,216,058 went to Mrs. Armour. She happily cried "I guess this shows that Mr. Armour was justified. . . . And those bankers who called my stock a liability! Well, I can laugh at them now." She thereupon prepared to move back to Lake Forest and to have her husband's record of insolvency stricken from the county books.

✚ "The price was so low I could not resist taking it over," commented Henry Mandel last month after buying a four-story brownstone in Manhattan, on 53rd Street west of Fifth Avenue. Although the deal was small it was Operator Mandel's first since his recent release from alimony jail.

CHAIN STORES

THE STEUBEN TAVERNS

will soon be 25 in number with a goal of 23,000,000 beers a year.

What many an architect has been seeking came several weeks ago to Philadelphia's Frank E. Hahn: a whopping big beer job. The work is being done for Steuben Taverns, Inc., a concern with headquarters in New York. Steuben Taverns is already one of the largest retail beer dispensers in the U. S. and is still expanding through an aggressive stock sales campaign.

Site of Philadelphia's Steuben is 18–22 South 15th Street where once was the Colonial Bank and Trust Co., later absorbed by the Pennsylvania Co. for Insurance on Lives and Granting Annuities. Architect Hahn had already done some alterations on the building for the Pennsylvania Co. When the company, tenant hunting, came across the Steuben Co., it was suggested that Architect Hahn draw up the plans since the Pennsylvania Co. knew his work and was anxious that the tavern's front in no way lower the standard of the building.

Steuben Taverns leased the space from the Pennsylvania Co. for 21 years at $50,000 a year and is investing $200,000 in the tavern. Typical of the modern, big-scale tavern, Philadelphia's Steuben will seat 600 people — 30 at the bar, 60 at the booths in the bar room, 140 on the main floor and the rest on the 60 x 150 mezzanine.

Many an abandoned branch bank office offers suitable quarters for a beer tavern. Architect Hahn says of the problem of transformation: "We were fortunate in having a very large area on the mezzazine floor with an interior court centering on the main dining area on the first floor. We were also fortunate in being able to make use of part of the attractive coffered ceiling on the main floor. The problem of removing all of the marble treatment and trimming down the massive columns of the bank in order to give the maximum amount of floor area was solved by working in German gothic. This involved resurfacing of the columns with field stone treatment.



© *Bachrach*

Architect Hahn

"The vaults in the basement came into good use in connection with the food storage refrigerators. Every vestige of bank occupancy has been completely removed. . . . The extensive use of leaded glass and murals on the interior add charm and warmth."

Immediate aim of the Steuben Taverns is to operate 25 beer taverns. They will all be supplied with ultra-modern equipment and will aim to serve good food and serve it quickly. Their slogan: "We make no profit on our food; like the acrobat, it's the turnover that accounts." Biggest of the Steubens thus far planned is being completed on Manhattan's Times Square behind fences saying "Men at Work."

Here, behind a 96-ft. frontage, Steuben expects 100,000 a month will dine and drink, spending $1,000,000 a year.

President Simon Adler is 32. He has been in the restaurant business for 15 years, after having originally been employed as a waiter. His first restaurant was at 230 Clinton Street, in New York's lower East Side. From 1925 until 1930, when the first Steuben was opened, he operated a large cafeteria.

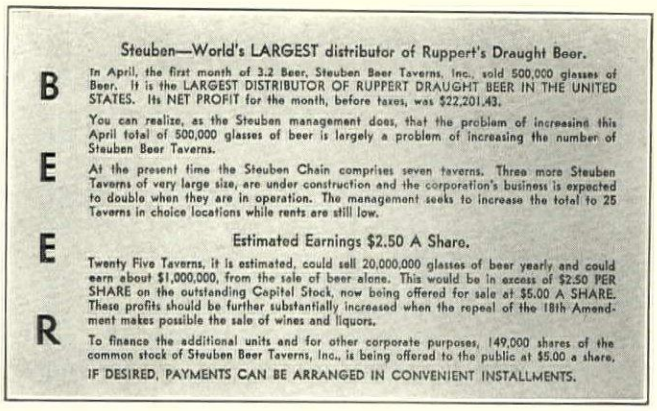
Henry Stark, chairman of the board and treasurer, has also had restaurant experience. The vice president and attorney is Benjamin Harriman. He is also in his early thirties and has been engaged in the practice of law and numerous real estate operations. J. Arthur Warner, who is handling the financing, is a young man of 31 who in 1928 resigned a good position in a prominent advertising agency to become a customers' man. He was with numerous brokerage houses and in October, 1932, formed J. Arthur Warner & Co., Inc., to conduct an arbitrage business in fixed trust shares. His associates have always liked and respected him.

The prospectus makes no glowing promises. It is noted that in April, 1933, the various operating units sold more than 500,000 glasses of beer, did a gross business of $144,239 and netted, before taxes, $22,201. No explanation is made of why gross sales in May dropped to $115,820, or what the net was.

The prospectus says that when sixteen additional units have been opened the company may sell annually between 80,000 and 100,000 half-barrels, equal to from 18,000,000 to 23,000,000 glasses of beer. It is estimated that beer profits alone could run at $1,000,000 and that anticipated share earnings are $2.50. The prospectus also states that "a future possibility of greatly increasing sales volume and profit will be available" when the sale of wines and liquor is permitted. The balance sheet accompanying the prospectus shows that the company was in much need of financing to meet current needs as well as to finance expansion, for cash and inventories of $21,000 compared to accounts and notes payable within the year of $176,000.

After the financing, the company will have over $600,000 in cash. It sells only Ruppert beers, and the gossip of beerdom is that realty-owning Col. Ruppert owns the majority of the preferred stock in the company. The aggressive stock sales campaign has reached within the restaurants, where customers can pick up little notices headed: "An Opportunity To Share in the Profits of Beer." These pamphlets suggest that the customer leave his name and address and receive the full prospectus and point out the fact that beer's biggest profits lie in retailing. However, probably for the peace of mind of customers, they do not contain this flat statement which occupies a prominent position in the prospectus: "Steuben Beer Taverns, Inc., purchases beer at about 3½ cents a glass and sells it at 10 cents a glass."

An invitation to share in the profits of beer from Steuben Beer Taverns to its customers. Steuben's 25 large taverns, all of conventional design, will form beer's biggest retail chain.



THE FEDERAL SECURITIES ACT

provides many exemptions for mortgages. The credit for this goes to the N.A.R.E.B.

DURING the confusion which first followed the passing of the Securities Act of 1933, there was much doubt as to the status of mortgages. The Federal Trade Commission warned the National Association of Real Estate Boards that unless specific exemptions were made, every mortgage would have to be registered in Washington before it could be sold. To the NAREB goes the credit for securing these exemptions.

The present situation is that mortgages do not have to be registered where:

1) The entire mortgage or deed of trust is transferred with the entire amount of notes or bonds to a single purchaser at a single sale and the face value or price of the mortgage does not exceed $100,000. Additional requirements are:

a) Commissions, discounts, brokerage charges and all other expenses to the borrower for procuring the loan must not exceed 5 per cent of the face value of the loan;

b) The aggregate face value of the loan must not exceed 65 per cent of the fair market value of the land (or leasehold) at the time of issuance;

c) The underlying real estate must be a contiguous plot or leasehold;

d) In the case of construction mortgages, the notes or bonds must be plainly stamped or inscribed with a statement that the security underlying them is in the nature of a construction mortgage, subject to prior mechanics', materialmen's or similar liens — the nature and amount of each specifically stated.

2) The notes or bonds secured by the mortgage or deed of trust are transferred to more than one person in more than one sale but the number of notes or bonds so secured does not exceed 25 and the face value or price does not exceed $60,000. All of the above requirements also apply in this group and the following additional ones:

a) The real estate must not be further removed from the residence or place of business of the purchaser than 150 miles.

b) The vendor must not be controlled by or pecuniarily interested in the trustee, or vice versa;

c) The vendor must at the time of the sale give purchasers a written statement setting forth: 1) The person or persons who have examined the titles to the property; 2) the total amount of notes or bonds authorized under the terms of the mortgage; 3) the current assessed value of the property and the value for which it was appraised for the mortgage; 4) the aggregate taxes assessed against the property for the year prior to the sale of the notes and bonds together with a statement of any special assessments that may have been made against the property but remain unpaid; 5) the rights of the bondholder or noteholder in the event of default of interest or amortization; 6) a description of the property, identifying it and stating the purpose for which it is to be used; 7) the amount of insurance outstanding, its character and the obligation of the mortgagor to maintain it; 8) the nature of the amortization provisions if any; 9) the amount of commissions to be paid for the transaction.

Where either principal or interest is guaranteed by a person other than the vendor, the guarantor must have filed a registration statement and a prospectus based upon it must be furnished to the purchaser at the time of sale or neither of the two classes of exemptions shall apply.

✚ Another step forward in real estate financing was the adoption of a strict code of ethics last month by the American Institute of Real Estate Appraisers of the N.A.R.E.B. The new code makes the appraiser responsible for so framing his reports on investment construction as to include his best estimate of the project's economic soundness. It rules to insure that independent appraisals really are independent and outlaws all bonuses and contingent fees.

THE BEAUX-ARTS APARTMENTS

go in for publicity. A bus is better advertising than an airplane and the tabloid goes to 7,000.

THE handsome Beaux-Arts Apartments on East 44th Street, New York City, are famed to architects and financiers. They were promoted in 1929 by a group of prominent architects who invested in them. Construction money was obtained through the sale of first preferred stock, a unique



Gottscho

The Beaux Arts

feat which enables the Beaux-Arts to stand mortgageless and lienless.

Last year the Beaux-Arts operated at a large deficit (see below). At present the management is trying vigorous promotion methods. If they succeed the tale of the Beaux-Arts will become a classic in apartment management lore.



Poor Publicity

Manager Cobden (right) and Beaux-Arts' Haiti-hopper.

Treasurer of the Beaux-Arts and active in their management is John Reed Kilpatrick, president of the Madison Square Garden Corp. (see page 46). L. Porter Moore & Associates, advertising and publicity consultants, have been retained to handle all phases of the work that do not fall directly under the management classification.

Originally intended as apartment houses, a few years ago the Beaux-Arts added some furnished rooms. The decorating was done by Lord & Taylor and was of a quality consistent with the buildings. In addition, rooms are also rented on a day-to-day basis. The buildings contain for the most part two-room apartments and one-room apartments with folding beds. All are equipped with small serving pantries and refrigerators. The South Building has a dining room and in summer places tables in the open court. Special efforts are made to get artists and writers as tenants although no concessions are made to "big names" at present. For the most part the tenants are young unmarried men and women.

Typical of Beaux-Arts promotion is its tabloid which goes to tenants and a large promotion list which is culled from the social register, club directories and corporation personnel lists. Seven thousand copies are usually distributed and the cost is insignificant.* Russell Patterson is the editor. The paper includes a chatty column about prominent tenants. Excerpt: "*Robert E. Lee*, a boxer and a gentleman, suh. And a golfer too, of no mean ability (even though he uses only one club). Bob is a very swell artist, a member of the Swedish Academy. . . ."

A successful promotional activity was the starting of a bus between the apartments and nearby Grand Central. The management considers it a good traveling sign board in addition to a service to tenants. Its cost is roughly $300 a month. A new service between the apartments and Rockefeller Center is being started this month. In addition to this advertisement and direct mailings, Beaux-Arts posters are placed in the stations of many cities and towns. Unsuccessful as publicity was a Beaux-Arts sponsored airplane flight to Haiti, to which the newspapers paid little attention.

Finances. The basic idea behind the Beaux-Arts financing was that the buyers of first preferred stock, who put up 75 per cent

* A printer estimates the cost at $150 for printing, $100 for cuts.



FREE TRIPS TO WEST INDIES

MUSIC FOR SUMMER GARDEN

BEAUX-ARTS JOURNAL

CAPTAIN BOYD RETURNS

Very Latest News

EXTRA!

ORCHESTRA FOR SUMMER GARDEN

LATEST RACING RESULTS

PROMOTION OFFICE ACTIVE

COMPANY CELEBRATES 50,000TH ICE CREAM SODA

Postmaster Cancels Stamp

CAPTAIN BOYD'S OWN STORY

SPECIAL TO BEAUX-ARTS JOURNAL

WAR-TIME ACE AND OCEAN FLIER AT BEAUX-ARTS

Tabloid

Artists and writers preferred.

of the capital, sacrificed the right of foreclosure in exchange for a little sweetening in the form of one share of common stock tossed in with every share of preferred. As a group, the owners of the first preferred received 39 per cent ownership in the venture in return for this sacrifice.

With interest rates what they were in 1929 it is dubious whether the Beaux-Arts could have sold a first mortgage covering 75 per cent of the cost of the project on a 6 per cent basis. Although the offering circular spoke of the site as being "in what is rapidly becoming one of the chief residential zones of the city," seasoned real estate men were aware that a large degree of risk was inherent in the project. With the exception of nearby Tudor City, which offered cheaper apartments and catered to a different class of tenant, the immediate surroundings of the Beaux-Arts consisted of abattoirs, newspaper plants, small shops and dingy tenements. That the offer of one share of common stock, then surely worth no more than $10 a share, made the preferred stock sal-



Good Publicity

A traveling signboard which is also pleasing to tenants.

able is a tribute to the perspicacity of the promoters, the ability of their salesmen and the stock greediness of the public.

Besides being a neat solution of the financing problem, the method fitted in well with the promoters' plans. In addition to receiving normal fees for their various types of service, they decided to keep those fees invested in the venture. To them it was naturally comforting that there was no underlying bond issue with the ever-present threat of foreclosure.

The official estimate of earnings came to slightly more than $1 per share of common stock. It was pointed out by using these earnings to retire all of the second preferred and much of the first, the earnings applicable to the common by 1941 would be around $3 a share. Perhaps only subsequent, unpredictable events have made the results so different from the anticipations. But the success of the offer remains the high-spot of 1929 real estate financing; excepting, of course, the titanic loans granted certain projects by cash-burdened insurance companies.

The syndicate of builders and architects who promoted the Beaux-Arts underwrote the second preferred and apparently still own it. In return for their sacrificing priority of dividends to the first preferred, they received three shares of common for every share of second preferred. As a group, they also received 39 per cent ownership of the venture although their contributions were only one-third as great as those of the buyers of the first preferred. The way things have worked out, it is apparent that they deserved this very fancy bonus for the risk they took. But at the time, when it was estimated that the building need only be half occupied to enable the first preferred dividend to be fully covered, it seemed that the promoters were being quite generous with themselves.

The remainder of the common stock went to the U. S. R. Management Corp., jointly owned by U. S. Realty and the National City Co. This, according to the prospectus, assured "continuity of management." In addition, it served as compensation for the financing. No statement has ever been made as to whether the Beaux-Arts pays any fees for management, and whether such fees, if paid, are paid to U. S. Realty or to U. S. R. Management Corp. If the latter were the case, the National City interests would still be receiving a return on their investment.

Earnings. The official estimate of earnings, as made by the chairman of U. S. Realty and the president of the George A. Fuller Co., follows:

Gross Earnings from rentals (less 10 per cent for vacancies)		$734,400
Operating Expenses:		
Management and general taxes	$180,000	
Depreciation	80,000	260,000
		$474,400
Federal income tax		56,928
		$417,472

From February 5, 1929, to April 30, 1930, the company lost $26,695. During the next twelve months it lost $21,424. Gross revenues were much smaller than in the above estimate, management and taxes much higher. Depreciation was fixed by the management at 2½ per cent on buildings and 10 per cent on furnishings and came to a far greater amount than in the above estimate.

NEW ISSUE

Beaux-Arts Apartments, Inc.

39,375 Shares First Preferred Stock
39,375 Shares Common Stock

Offered in Units of one share of First Preferred Stock and one share of Common Stock

The First Preferred Stock will be entitled to cumulative dividends at the rate of $6 a share per annum, payable quarterly on the first day of February, May, August and November, in each year; initial dividend payable May 1, 1929, in the amount of $1.25 per share. Dividends exempt from the present normal Federal income tax.

The First Preferred Stock will be redeemable, in whole or in part, at the option of the Company or through operation of the Sinking Fund, on any dividend payment date, upon 30 days' prior notice, at $102.50 per share and all accumulated unpaid dividends. In any voluntary distribution of capital assets, entitled to $102.50 per share and all accumulated unpaid dividends. In any involuntary distribution of capital assets, entitled to $100 per share and all accumulated unpaid dividends.

Transfer Agent: THE NATIONAL CITY BANK OF NEW YORK

Registrar: THE FARMERS' LOAN & TRUST COMPANY, NEW YORK

CAPITALIZATION

	To be Authorized	To be Outstanding
First Preferred Stock (Without Par Value)—This Issue	39,375 shs.	39,375 shs.
Second Preferred Stock (Without Par Value)*	17,500 shs.	13,125 shs.
Common Stock (Without Par Value)	100,000 shs.	100,000 shs.

* The Second Preferred Stock will be entitled to dividends at the rate of $6 a share per annum, cumulative from February 1, 1930, and in liquidation or upon redemption entitled to $100 per share and all accumulated unpaid dividends; subject in all respects to the prior rights of the First Preferred Stock. The unissued shares are to be reserved for future issuance if necessary to provide for contingencies.

Mr. H. S. Black, Chairman of the United States Realty and Improvement Company, and Mr. Lou R. Crandall, President of the George A. Fuller Company, have summarized the following information from their accompanying letter:

Beaux-Arts Apartments, Inc. has contracted to acquire title to two sites on East 44th Street between First and Second Avenues in New York City, and will erect thereon two apartment buildings of modern fireproof construction, to contain in the aggregate over 800 rooms. There will be deposited with The National City Bank of New York, as Depositary, a Construction Fund which, it is estimated, will be sufficient to complete the construction of the buildings. The United States Realty and Improvement Company and the George A. Fuller Company will enter into a contract guaranteeing completion of the buildings substantially in accordance with the architects' plans and specifications.

The actual investment in the Company will amount to approximately $5,250,000, comprising the cost of the land, the estimated cost of the buildings, architects' fees, carrying charges during construction, financing expenses, working capital, etc. Of this total cost, 75% will be represented by the 39,375 shares of First Preferred Stock and 25% will be represented by the 13,125 shares of Second Preferred Stock. The Common Stock will be distributed 39,375 shares with the First Preferred Stock, 39,375 shares with the Second Preferred Stock and 21,250 shares to the U. S. R. Management Corporation for the purpose of assuring continuity in the management of the enterprise.

Upon completion of the buildings, the annual net income of the Company, after deducting operating expenses and taxes, including Federal income taxes at the rate of 12%, is estimated at more than $497,000 before depreciation. Until the amount of First Preferred Stock outstanding is reduced to 26,250 shares and until all of the Second Preferred Stock is retired, the net income, before depreciation, after dividends on the First Preferred and Second Preferred Stocks, is to be applied to the retirement of First Preferred Stock and Second Preferred Stock through a Sinking Fund.

On the basis of the estimated earnings, it is calculated that 13,125 shares of First Preferred Stock will have been retired on or before November 1, 1938, and that on or before November 1, 1941, all of the Second Preferred Stock will have been retired. After such retirements, the capitalization would consist of 26,250 shares of First Preferred Stock, representing only 50% of the actual investment in the Company, and the Common Stock. The estimated net income, before depreciation, after deducting annual dividend requirements on 26,250 shares of First Preferred Stock, is equivalent to $3.40 per share of Common Stock. After deducting depreciation on a basis revised to consider the retirements effected by the Sinking Fund, such net income is equivalent to approximately $3 per share of Common Stock.

We offer these stocks in Units consisting of one share of First Preferred Stock and one share of Common Stock if, as, and when issued to and received by us, subject to the approval of all legal proceedings by our counsel, Messrs. Shearman & Sterling, and by Messrs. Davis, Symmes & Schreiber and Richard G. Babbage, Esq. It is expected that delivery in the first instance will be made on or about February 15, 1929, in the form of Allotment Certificates, exchangeable for definitive stock certificates when prepared.

Price $100 per Unit

The National City Company

National City Bank Building, New York

TWENTY-TWO OFFICES IN THE METROPOLITAN DISTRICT

Offices in the Leading Cities throughout the World

D-177—1—29

1929 Anticipations



Beaux-Arts Gymnasium

Artist Russell Patterson and high-heeled gymnasts.

The management, reporting to stockholders prior to the statement, said that "while approximately 70 per cent of the apartments are rented, the percentage of total possible income is only about 55 per cent for the reason that the 192 unrented apartments contain a large proportion of the more expensive apartments."

In 1932 the company reported a $23,910 profit and in 1933 a $137,848 loss — both dates referring to the fiscal year ending April 30. The two statements follow:

	1932	1933	
Operating Revenues:			
Rents less commissions	$464,296.99	$383,717.47	
Loss on restaurant, telephone, etc. (net)	3,523.60	22,099.03	
	$460,773.39	$361,618.44	
Deduct:			
Operating and administrative expenses, advertising, bad debts, etc., less submetering credit	$218,714.06	$256,517.61	
General taxes	105,866.41	93,215.21	
Expenditures for furniture*		34,920.64	
	$324,580.47	$384,653.46	
Operating Profit	$136,192.92	*$23,035.02*	(D)
Depreciation	112,282.01	114,813.57	
Net Profit	$23,910.91	*$137,848.59*	(D)

(D) = Deficit

*When the company first decided to rent furnished apartments, it was decided to depreciate the furnishing at 20 per cent. Later it was decided to charge them to operating expenses.

In the face of these results, the second preferred has of course paid no dividend. The first preferred paid its regular dividend through February 1, 1931, the necessary funds being provided by U. S. Realty which saved face by buying 2,363 shares of the second preferred. The dividends were charged against paid-in surplus. Following sinking fund provisions, 1932's net operating income of $136,192.92 was used to retire 2,782 shares of first preferred and 970 shares of second preferred.

At present the units of one share of preferred and one of common are selling at $7 bid, or a total valuation for the first preferred and 39 per cent of the common of only $262,000 against the $1,243,000 at which the land alone is carried on the books. The reason for this price is of course the realization that unless the management's strenuous methods succeed the Beaux-Arts will face an unhappy crisis. At the end of April its cash was down to $21,720 and its entire current assets equal to only $50,511.47. Accounts payable were $23,496 and accrued taxes, $27,535. There was also an item of notes payable, $980. This last item is a warning that all possible provisions that the company shall not "create or suffer to be created" any sort of prior liens are meaningless when cash runs down and gross earnings cannot meet out of pocket expenses. Which in turn leads to the obvious conclusion that first preferred stock is not "a mortgage without the right to foreclose" but simply first preferred stock.



More Beaux-Arts Gymnasium

Robert E. Lee, amateur boxer and artist, poses with Ruth Kane, actress.

THE MACHINERY

for aiding N. Y.'s savings banks is set up. How it will work.

AN IDEAL savings bank would be one which could, in an emergency, obtain hard cash quickly from its competitors, from the Federal Reserve and from the R. F. C., one which could always be sure that it could sell its mortgages at a fair price if it had to. Such a bank could lend more freely on real estate, knowing that it had a second line of defense for periods of adversity.

Last month savings bankers of the U. S. were watching developments in New York State closely. For financial machinery was set up which will do for the savings banks those things they cannot do individually. The plan, which was formulated in June, set in motion two months later, is largely the theory and accomplishment of Brain Trustee Adolph A. Berle, Jr., whose pursuasive powers won recalcitrant bankers into line.

Biggest shell in what Prof. Berle calls "this tremendous piece of artillery" is the Savings Bank Trust Co., of which the savings banks are both owners and clients. The institution will have $105,000,000 in capital. Common stock will be capitalized at $5,000,000 and will be subscribed for by the savings banks in a ratio equal to about one-tenth of one per cent of their deposits. Half of the remaining $100,000,000 will be represented by 10-year capital notes, to be bought by the R. F. C. as needed, $1,000,000 at a time. Because the R. F. C. can buy such unsecured obligations of a trust company, this corporate device does away with the necessity of offering specific collateral, and waiting for the slow process of R. F. C. appraisal.

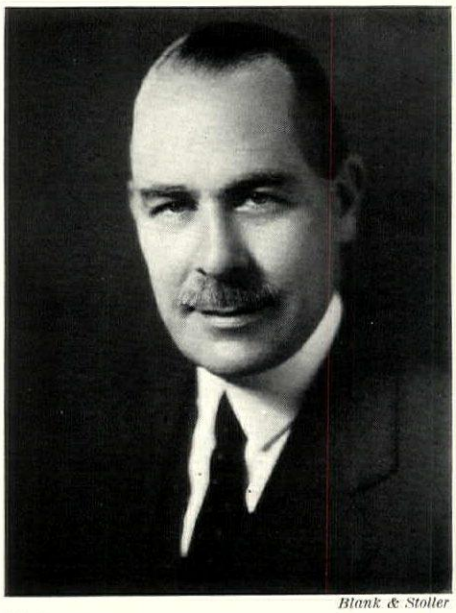
(*Continued on page 38*)

BUILDERS SEEK

a code and Engineer Pirnie is called in as chief "fixer."

LIKE a duck inveigling her young to take to water for the first time, the Construction League of the United States is at last leading the various branches of the building industry into President Roosevelt's National Recovery Program. Since July 14 all building codes had been stalemated because no one could agree which trade association was really representative of the builders as a whole.

When the Associated General Contractors of America presented their code in Washington, the cry immediately went up that the A.G.C. spoke only for the New York section. Deputy Recovery Administrator Malcolm Muir thereupon turned the code over to Malcolm Pirnie, consulting engineer of New York, hoping that his superior knowledge of building intricacies could bring order out of chaos.



Blank & Stoller

Malcolm Pirnie

For Fixer Pirnie was the problem of arranging a code that would satisfy 35 trade groups: architects, builders, engineers, material men, contractors from all parts of the U. S. Foremost among his needs was a super-association potent enough to hold dissenters in check, sufficiently broad in its connections to cover all phases of the industry. Of the three available he chose the Construction League of the United States. The National Association of Builders was not widely representative. The American Construction Council, in spite of the fact that Number One Recovery Administrator Franklin Delano Roosevelt was once its honorary president, covered so many conflicting fields that it would be self-obstructing in any public movement. The Associated

(*Continued on page 34*)

THE EDITOR'S FORUM

TO SPEED PUBLIC WORKS

It is dangerous to draw a general conclusion from a single example, for it may not be typical; it may even be the exception. If the workings of the Public Works Administration in Madison, Wisconsin, are being duplicated in hundreds of other cities, it is not surprising that criticism now comes rattling off the presses, drowning out the announcements that "so much has been allotted to such-and-such." These allotments are earmarkings of credit to be paid from PWA funds when, if and as projects meet the requirements of proper submission form, financing set-up, completion of architectural or engineering plans, legal sanctions, PWA board analyses and modifications, PWA contracts, submission of bids, and, finally, awards of construction contracts. A long process, with many a slip twixt allotment and cash.

Allotments to date total over a billion and a half, actual funds disbursed total approximately 70 million or about two per cent of the total fund available. This is evidence that the hopeful cry of "off the dole-roll by Christmas" is vain for workers in the construction industry. These figures might even indicate that the plight of Madison is typical. Here is one community ready to go ahead, using all possible initiative and intelligence, complying with all government rules, requirements, regulations and suggestions, and still no funds come from the coffers of the PWA to put her men back to work. It is discouraging to Madison's architect-mayor James R. L. Law,* demoralizing to his relief-roll citizens who want to start before snow flies. Disheartening to builders is the fact that the *one building* needed was left off the list of Madison's allotments.

On the other hand, we must believe that Madison's plight is the exception, not the rule. Administrator Ickes has publicly urged municipalities to speed their projects to Washington through the State Engineers, putting the blame for delay squarely on the local authorities who are failing to avail themselves of their Public Works opportunities. He assures us that the building industry will not be the "forgotten man" in Public Works. Speed is the motto of the Administration. But — the public must be protected against "pork." Each project must be investigated thoroughly. But caution and investigation cause delay. The enormity of the emergency makes us all impatient; realization of the colossal task and responsibility should make us tolerant of all but needless delay.

The Washington personnel of the PWA is working at top speed ten to sixteen hours a day, holidays included. We are sure that the Administrator and his deputies would welcome every practical constructive suggestion from competent sources for speeding up project approvals. We suggest that critics, before becoming vocal, consult with representatives of the designing, executing and manufacturing branches of construction — men noted for efficient operations — to study the Administration procedure in order to suggest, if possible, any and all means of expediting the work.

Architects and the building industry must take their full share of the blame for delay. They had no surveys of needed buildings in spite of examples and commitments;† the unintegrated, individualistic groups that constitute the normally second-largest industry in the country were unprepared; could not say, "Here are plans for building projects; when do we start?" Waterworks and highways had been planned and successfully advocated by the interested organizations. Why not buildings? It is not yet too late. We confidently expect the Administration to pay particular attention to building projects of non-federal character. We look for more allotments in the immediate future for schools, city and county buildings and recreational and cultural buildings.

To accomplish the objectives of the Recovery Act and to coordinate its program with the Relief Administration, we make this recommendation. That the Public Works Administration now allot an adequate sum to the Planning Board for the express purpose of conducting an immediate Survey of Needed Construction in each State, employing expert State survey directors, each to cooperate with the State Engineer and to engage unemployed architects, engineers and draftsmen from local relief rolls for the field work and compilation of the Survey. We believe this to be the most expeditious way of "formulating a comprehensive program of public works," a mandate of the Act.

Through this plan a constructive and necessary work would be performed by qualified, trained men. The Planning Board can develop at once the program for coordinating this work with the Federal, State and city relief agencies. The surveys would be of inestimable value to the State Engineers in locating and judging projects. Naturally the immediate task of the State Engineers, that of speeding projects to Washington, should not be delayed by the surveys; both should proceed simultaneously. Projects would be brought to light in communities which Secretary Ickes states are backward in applying for loans. Local reports of the survey would enlist public support for the projects. Local planning boards, architectural organizations and municipal authorities would cooperate to make the "comprehensive program" a reality.

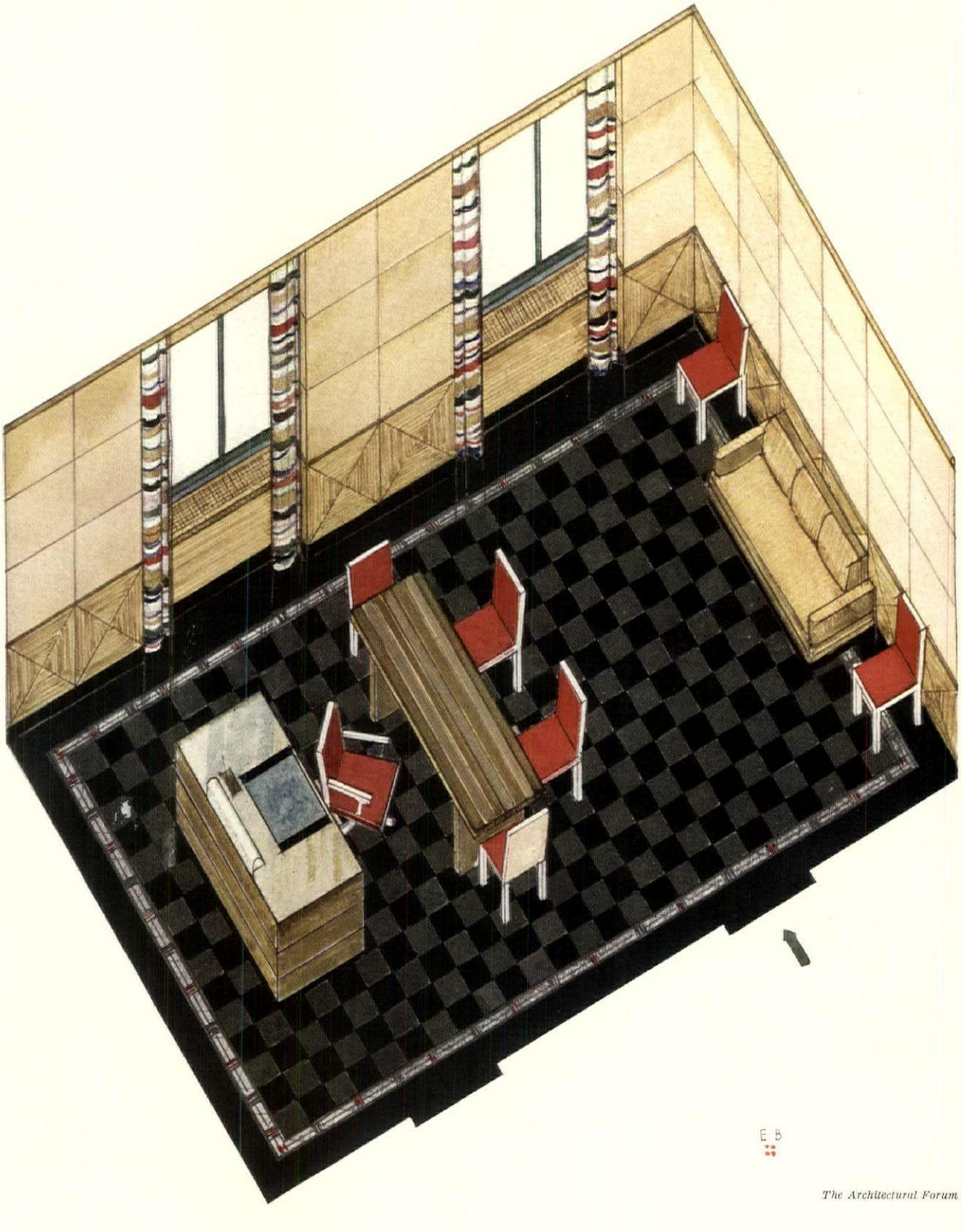
We have faith in the integrity and sincerity of the men who constitute the Public Works Administration. We now urge again that *buildings* receive their full share of government financing. We confidently expect the promise of increased speed of action to be fulfilled.

Kenneth K. Stowell

Editor.

* Correspondence, page 18, September and October, 1933, The Architectural Forum.

† "The Survey of Needed Construction" and "The Ohio Survey," The Architectural Forum, June, 1933.



The Architectural Forum

AN EXECUTIVE OFFICE

Designed by SHREVE, LAMB & HARMON, *Architects* · *Color Isometric by* ERNEST BORN

THE

ARCHITECTURAL

FORUM

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A CORPORATION'S OFFICES

SHREVE, LAMB & HARMON, ARCHITECTS

When manufacturers of building materials set about to select an architect to design a building, they choose carefully—for business reasons. The late T. F. Manville found the problem so knotty ten years ago when he wanted to add to the old Johns-Manville Building at 41st Street and Madison Avenue in New York that he invited 23 architects to draw lots for the job. Ludlow & Peabody won.

Last year when Johns-Manville made up its mind to move from the old building, it had the same problem, but a simpler solution. On cordial terms with most New York architects, the company was particularly indebted to Shreve, Lamb & Harmon, who in the Bankers Trust Company Building had collaborated* with J-M engineers in developing a new partition. Consequently, no feelings were hurt, no business was lost when they got the job.

A giant among building material manufacturers, Johns-Manville owns three mines, operates thirteen factories, and does business through sixty-seven offices. It was to house the 450 officers and employes of its executive staff in New York that new offices were sought.

With steel framing and curtain walls, the problem of exterior walls for skyscrapers was solved long ago. Not the same progress, however, has been made with the interior. Methods common twenty years ago are still in general use today.

Because tenant changes in large cities are made on an average of one every thirty-three months, the need has been for more flexible interiors. High percentage of salvage and low maintenance are other requirements that are bringing about the evolution of a new building interior construction system.

Even before the hunt for space began the executives had resolved to put into effect their interpretation of the new science. Because they were spending for twenty years they were not overconcerned with initial cost, but they were concerned with high efficiency and low maintenance. Further, they wanted offices which in themselves would demonstrate the suitability of as many of the company's products as possible.

Five primary requisites were set up:

1. Comfortable working conditions
   a. Good air
   b. Good light
2. Privacy
3. Quiet
4. Flexibility
5. Attractiveness in appearance to employes and visitors

The space seekers examined a dozen or more first rank buildings in the mid-town area without finding what they were looking for, or at least not in the degree they wanted. Finally, because of its location, the adaptable character of the space, and the inviting terms of the lease, six floors, from the seventh to the twelfth, each with a usable area of 8,000 sq. ft., were leased in a building across the street, 22

* Other architect-collaborators were: Ely Jacques Kahn, Ralph Walker and the Rockefeller Center architects.

East 40th Street, owned by the New York Trust Company.

Twenty-six floors above the twelfth floor, totally apart from the rest of the organization, an office suite was leased for the only active Manville in the business, H. E. Manville, chairman of the company's executive committee.

Special conditions create special leases. The building agreed to purchase and install complete equipment for all year round air conditioning, to buy and install indirect lighting fixtures suitable to the tenant, to devote a special directory to company names in the lobby, to set up an aluminum plaque outside the building signifying the presence of Johns-Manville in the building.

In return the tenant agreed to sign a lease for ten years, with two optional five-year clauses, to pay for and install all partitioning, flooring and ceiling treatment, to find room for part of the air conditioning equipment in space the tenant was paying for. It is presumed that the tenant paid not more than a third more per square foot than it would have cost had there been no air conditioning, no special features.

Air Conditioning. Most building owners have been reluctant to install summer and winter air conditioning, fearful that prospective tenants might balk at having the cost passed along to them in increased rentals. The Two Seventy-five Madison Corporation probably felt the same way, but Johns-Manville had strong feelings about air conditioning, and was prepared to pay.

Air conditioning contributed importantly to fulfillment of two requisites—comfortable working conditions through distribution of cool and dehumidified or warm and humidified air, and quiet through minimizing street noises by eliminating open windows. Further, part of the increased cost of space was offset by more efficient use of space. With outside and inside space equally valuable, the space was divided on the basis of use efficiency, without regard to window lighting or outside air. How important this was in determining the office layout can be imagined from the fact that more than 12,000 sq. ft. of interior space, which in most offices would have to be devoted to storage and other nonproductive activities, is used by office workers.

The system has been designed to furnish two complete air changes per hour, supplying a maximum of 33⅓ per cent fresh air to the 500,000 cu. ft. of space on the six floors.* It can maintain an inside temperature of 80° with 50 per cent relative humidity when the air outside is 95° dry bulb and 75° wet bulb temperature.

In the choice of refrigerating equipment, the building owners came to the conclusion that it would be economical because of lower steam rates obtained by summer purchase from the New York Steam Corporation to install a steam jet refrigerating unit.

In this type of system, the water used in sprays to cool the air is chilled by admitting it to a spray chamber or evaporator, maintained at such high vacuum that a small part of the water is immediately evaporated, thereby cooling the remainder which is pumped out and used. The evaporated vapor is picked up by booster steam jets and compressed to a lower vacuum where it is condensed by the available cooling water supply.

Control is the secret of good air conditioning. In steam jet refrigeration there are several methods in common use. The manufacturer of the equipment in this installation employs a subdivided evaporator, whereas other manufacturers use subdivided condensers or large valves in the booster suctions to permit independent operation of the boosters.

This unit has three steam jet boosters, each with its own evaporator compartment. Two have 70-ton capacity, one 40-ton, and provision has been made for another 70-ton booster to be added later if other tenants decide to follow J-M's example. One 70-ton and one 40-ton booster are manually operated, the other having thermostatic control. With this arrangement, speedy adjustment can be made to meet varying cooling load requirements. During the past summer, in which steam jet refrigeration was being given its first real test, the unit for the J-M offices was in continuous service and performed satisfactorily.

The refrigerating plant and cooling tower are located in the basement. Cold water is shot up to the seventh floor, directly overhead, where space has been allotted to a booster pump, an air washer, dehumidifier and fan. (See schematic diagram, page 262.) Each floor has its own fan room, with a capacity of 75,000 c. f. m.

The duct layout is simple (see diagram, page 262) with the corridor ceilings being used to carry the main ducts. The ceilings have been furred, and the ducts concealed beneath a false ceiling of acoustic tile units. Although a low ceiling is the result, it has been possible to locate all office outlets in the walls near the ceiling, thereby eliminating the necessity of reducing office ceiling heights. The used air is returned to the corridors through vents in office doors.

Four months' experience with air conditioning has produced definite favorable results. Officers and employes are unanimous in declaring that when the day is over they feel less tired and have accomplished more work. The effect has been particularly noticeable in the inside office spaces where advertising copywriters and draftsmen are quartered.

Lighting. In fulfillment of part two of the first requisite—good light—the company insisted on

* Somewhat cooler perhaps because of the increased altitude, Mr. Manville's office on the 38th floor is not air conditioned. His executive committee colleagues enjoy twitting him about his torrid space.

totally indirect lighting of 20-foot candles at desk level. The resulting metal and glass ceiling fixture is one that meets those requirements (see illustrations). Although it supplies totally indirect light the luminous louver forming the base eliminates the black spot that usually accompanies totally indirect lighting.

The heart of the unit is a processed bulb, its base coated with a metallized paint to direct the light upward.* Although there is a loss in light reflection from the acoustic ceiling, it is so slight that no increased wattage was required to obtain the required desk level intensity. Fixtures are not spaced on uniform centers because the tile ceiling permits location of units to meet the conditions of each individual office. For even light distribution in offices requiring two or more units, 300 watt bulbs were installed in fixtures nearest the windows and 200 watters in the others.

Partitions. The large number of private offices has led someone to suggest that Johns-Manville resembles a Mexican army—all generals and no privates. So far as the New York office is concerned, it is partially true. With 800 different products to sell, and every industry a market, there are, of necessity, many divisions, each with its divisional chief and staff.

* To encourage owners and managers to install indirect light, which usually costs more, the processed bulb manufacturers sell bulbs to them at dealer rates, permitting them to make a profit in reselling to tenants.

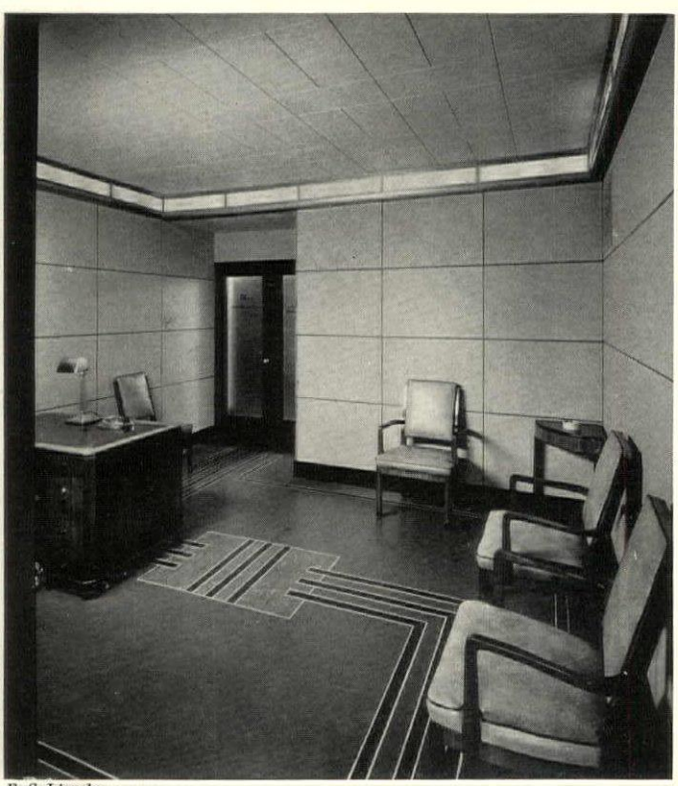
But the important reason for the many private offices was the company's insistence on privacy—not to prevent overhearing, but to encourage work, to discourage office visiting, and to minimize the constant interruptions caused by passing co-workers and visitors.

Changing offices gave the company an opportunity it had long been seeking, a chance to demonstrate a'l the possibilities of its new partition system. The basic material had been used for years, and a few experimental efforts had been made with the partition system, but no one had really put it to the test of versatile and continued use.

The partitions consist of asbestos-cement wall sheets, friezes and baseboards, secured to lightweight steel studs by invisible holding devices. The wall sheets have a maximum size of 4x8 ft. x 7/16 in., and have been installed in 2 and 4 ft. widths throughout. The steel studs are formed of two rolled channels welded together to form 3 x 2½ in. I-beams that are adjustable in length to allow for variation in ceiling height. Embossed slots in the flanges on each side of the stud are provided to receive the clips attached to the wall sheets. (For further explanation of the construction see the details on page 260.)

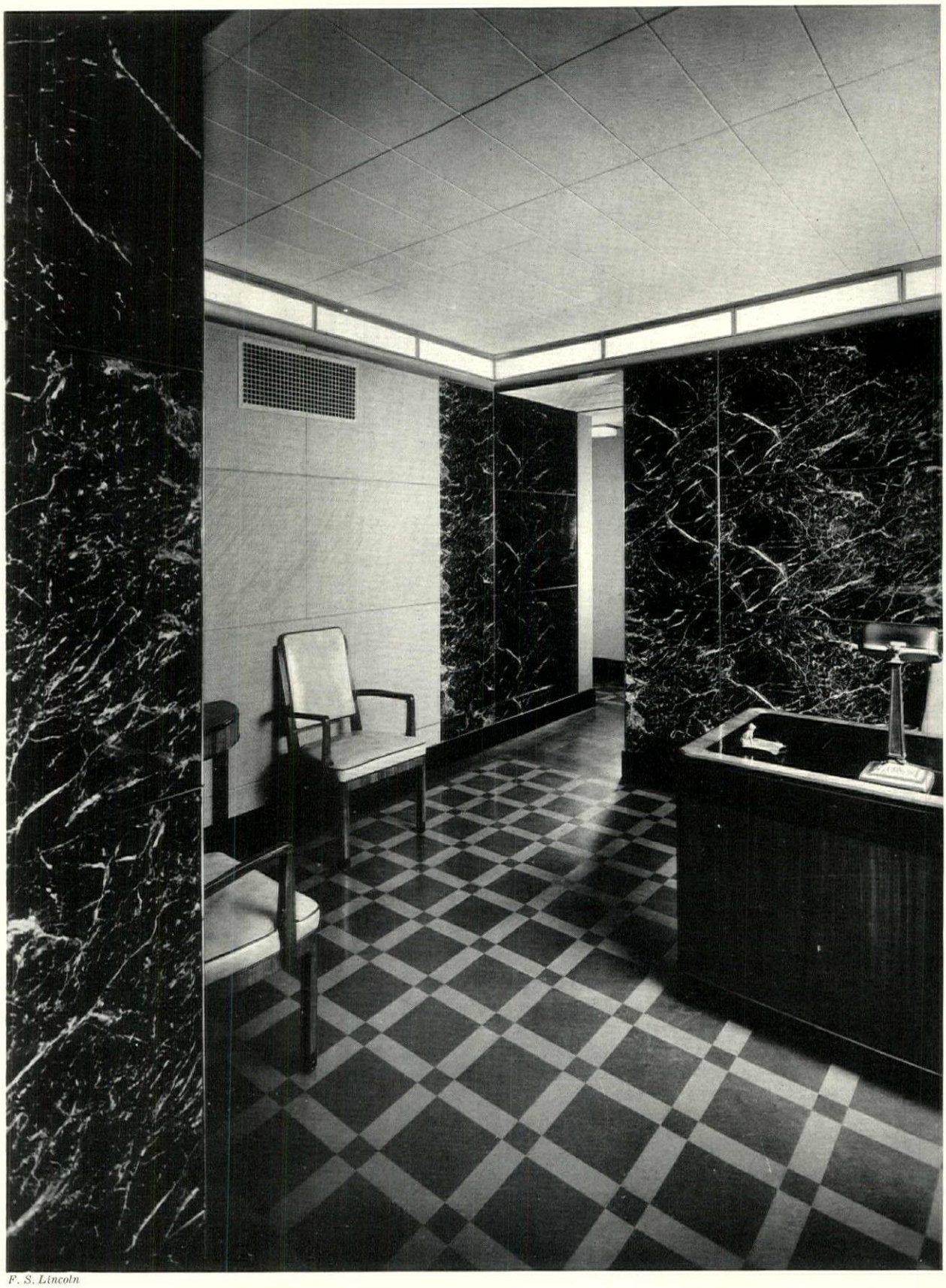
Three types of finish were scheduled for three office classifications: "A," "B," "C." The first group includes all officers and some department heads. In choosing decorative finishes for these

(*Continued on page 261*)



F. S. Lincoln

Ninth floor reception room, inlaid asphalt tile flooring, fabricona wall finish, with beads painted black, and acoustic tile ceiling



F. S. Lincoln

Restaurant and theater specialists will certainly be shown this eighth floor reception room, where the wall finish is partly marbleized in verde antique, partly covered with mohair. A chromium bead is used to emphasize the vertical and horizontal joint

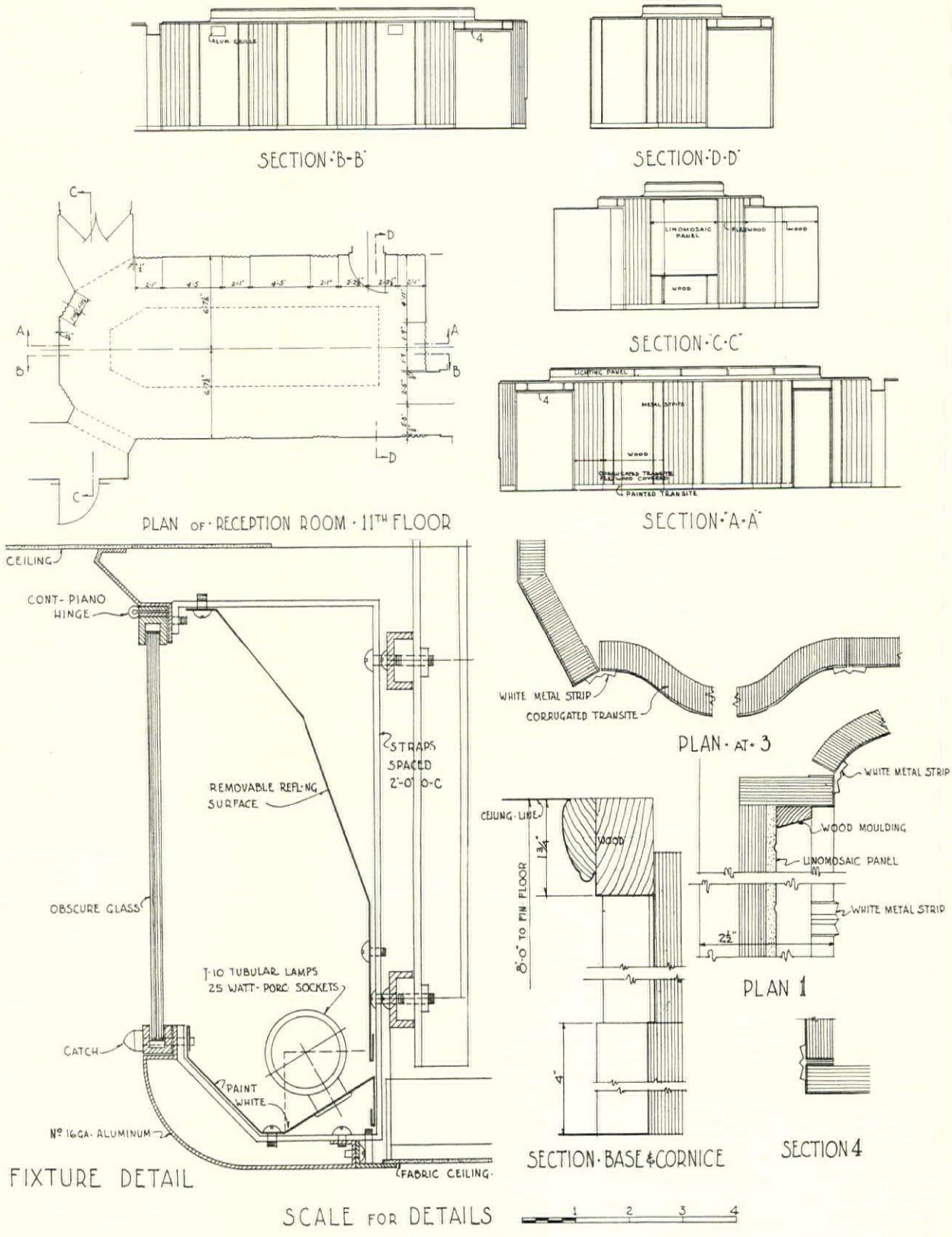


F. S. Lincoln

What was once used only for factory walls and roofs has been dressed up to form a part of the decorative scheme of the reception room on the eleventh floor. The corrugated sheets, the original transite product used for industrial buildings, have been covered with walnut flexwood providing an interesting contrast in form and coloring with the flat sheets which have been veneered with prima vera. The wood molding is walnut. Here, as elsewhere throughout the offices, asphalt tile has been used for the flooring and the ceiling is acoustically treated. The standard chrome bead accentuates the joints. Full details of the construction, lighting and decorative features are shown on the following page

A CORPORATION'S OFFICES, NEW YORK

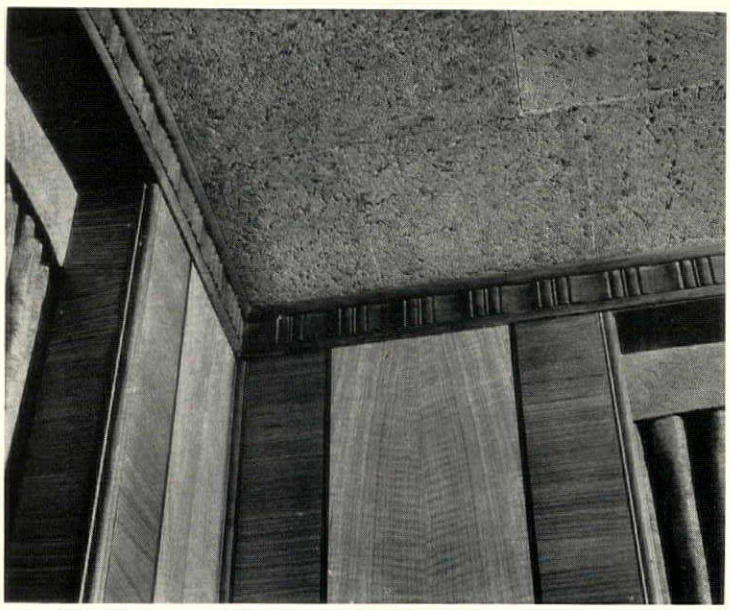
SHREVE, LAMB & HARMON, ARCHITECTS



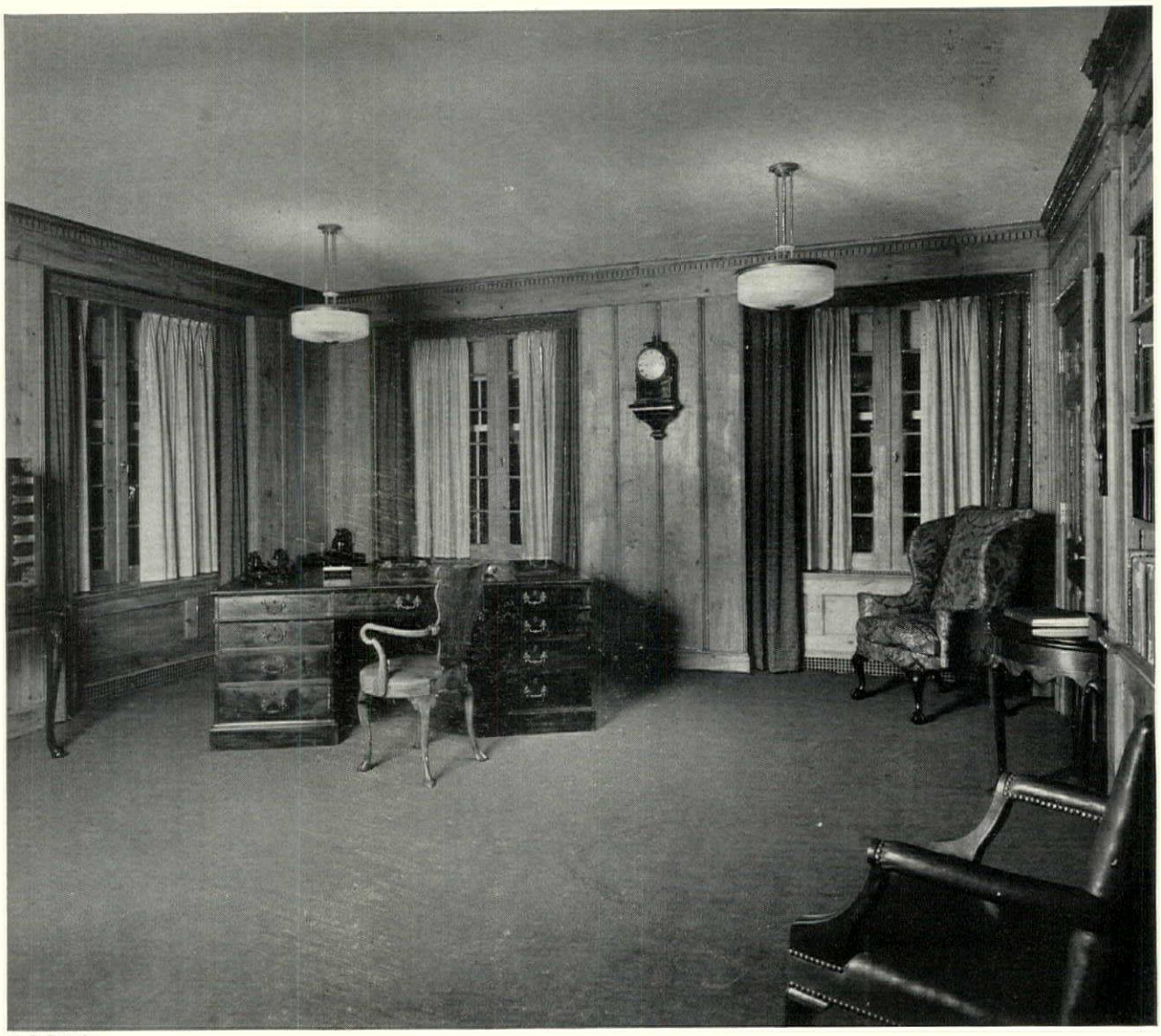
Plan, elevations, lighting and decorative details of the reception room on the eleventh floor, which houses most of the company's major executives. The room is pictured on the page immediately preceding



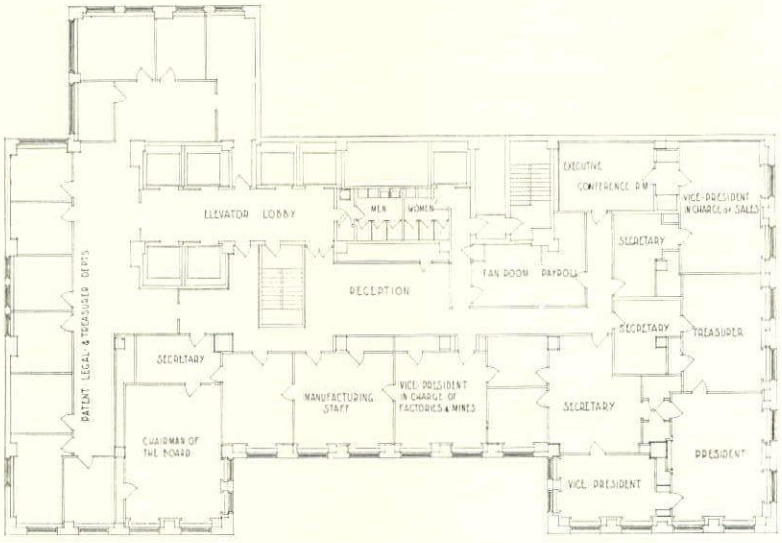
F. S. Lincoln Photos



Many a board chairman will probably be brought into the office of the chairman of the board, W. R. Seigle, to see what a luxurious job can be done with transite partitioning. The matched panels of French walnut framed in the darker tones of American walnut, indicate the decorative possibilities of the system. Mr. Seigle's is the only office which uses expanded mica acoustic treatment for the ceiling. The carpeting is blue-green in color, the tone of which is carried up to the ceiling in the draperies



F. S. Lincoln



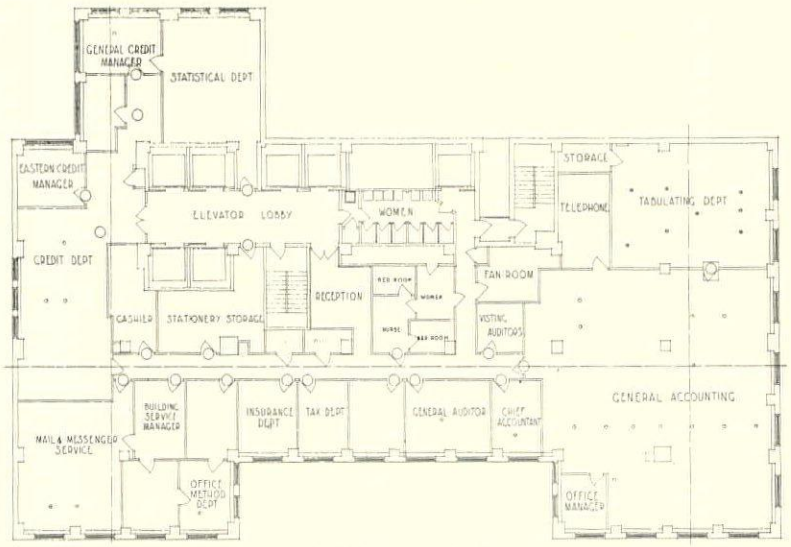
ELEVENTH FLOOR PLAN

Office of the company's president Lewis H. Brown, whose commercial child transite partitioning really is. Although he sponsors modern construction, Mr. Brown is less enthusiastic about modern design, and has surrounded himself with an office of fine Federal character. From base to cornice the transite sheets are covered with knotty pine veneer. The carpet is blue. For the more efficient lights of the other offices, semi-indirect bronze fixtures have been substituted to retain the traditional character of the room



F. S. Lincoln

Like his president and his chairman of the board, H. E. Manville has no particular liking for modern styles. His office suite on the un-air conditioned 38th floor is a good example of pollard oak paneling. On page 260 full details are shown, including the effective but expensive method of providing a recess for the draperies, and a typical radiator enclosure. Although Mr. Manville salvaged the wall brackets from his old office, he has since changed his mind about them, and has substituted others more efficient and more appropriate



EIGHTH FLOOR PLAN



F. S. Lincoln



In this office the walls are finished in fabricona homespun, and the dado is oak veneer. Above the dado the joints are butted. No carpeting is used over the asphalt tile flooring

A CORPORATION'S OFFICES, NEW YORK

SHREVE, LAMB & HARMON, ARCHITECTS



F. S. Lincoln



Above, an office suite finished in fabricona with taku veneer for the dado. Below, typical clerical office which has an asphalt tile floor, painted transite walls and acoustic tile ceiling

A CORPORATION'S OFFICES, NEW YORK

SHREVE, LAMB & HARMON, ARCHITECTS



F. S. Lincoln

One of the few places in the offices where transite may be seen in the raw, a typical office corridor. Not even paint has been used to cover the dull gray of the finished sheets, the joints of which are marked by chrome beads. The same acoustic tile, but not in 12 x 12 in. units, is used for the ceiling, which has been dropped 18 in. to conceal the air conditioning ducts. The flooring here is asphalt tile

A CORPORATION'S OFFICES, NEW YORK

SHREVE, LAMB & HARMON, ARCHITECTS



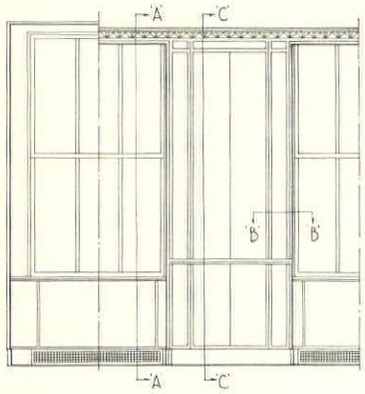
F. S. Lincoln

To eliminate reflections, the photographer has done what is never done in this office—left the door open between the noisy clerical office and the even noisier tabulating room. The latter is built on floating construction, which shuts off the vibration originating there. The offices are separated by double-glazed borrowed light partitions, which were installed simply to show prospects what they look like

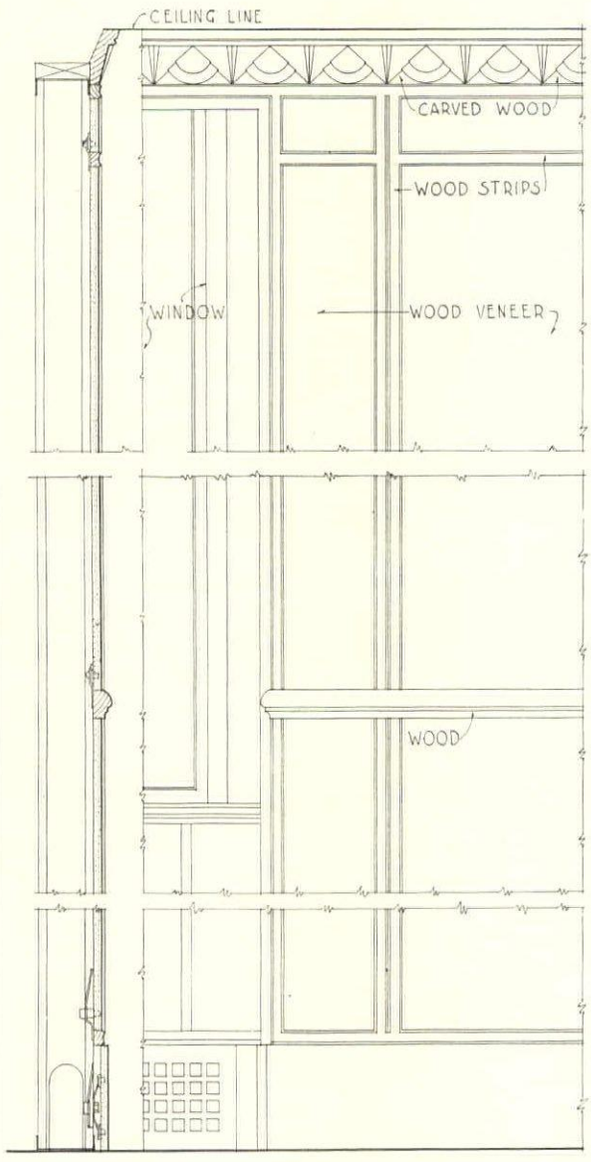
A CORPORATION'S OFFICES, NEW YORK

SHREVE, LAMB & HARMON, ARCHITECTS

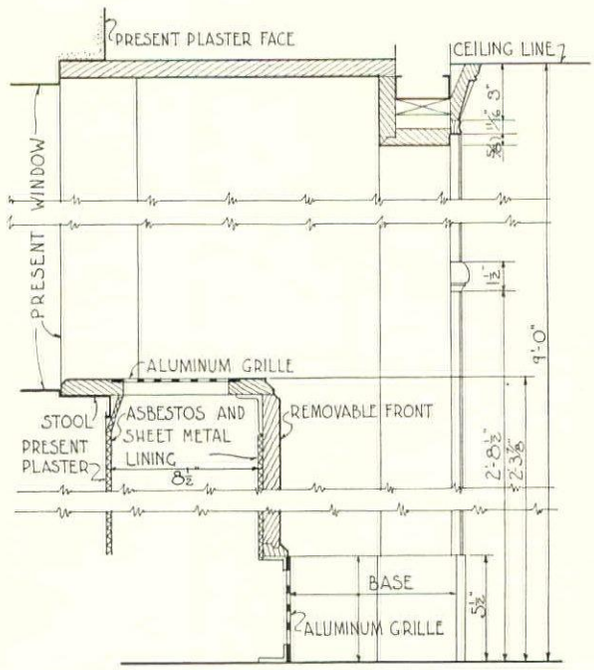
·DETAILS·
OFFICE OF
MR·H·E·MANVILLE



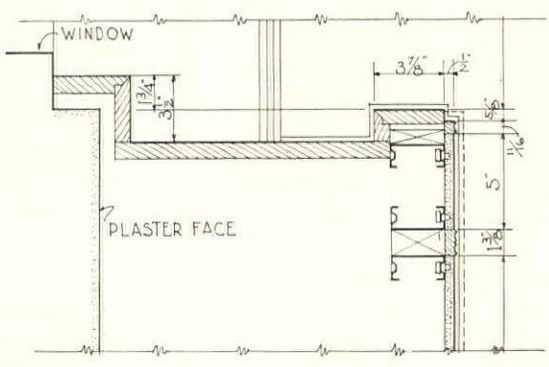
ELEVATION



SECTION·"C-C" DETAIL OF ELEVATION



SECTION·"A-A"



SECTION·"B-B"

(*Continued from page 249*)

offices the architects ran through the entire list of possibilities—wood veneers, several different kinds of fabrics, wall papers, washable wall coverings, special lacquers and painted designs. A similar range in treatment was accorded the reception rooms. (See Plate Illustrations.)

In Class "B" offices, choice of design and decoration was limited to the arrangement of units, in vertical, horizontal or combination pattern, and the color of paint. The "C" offices are uniformly designed and finished, vertically patterned and painted green.

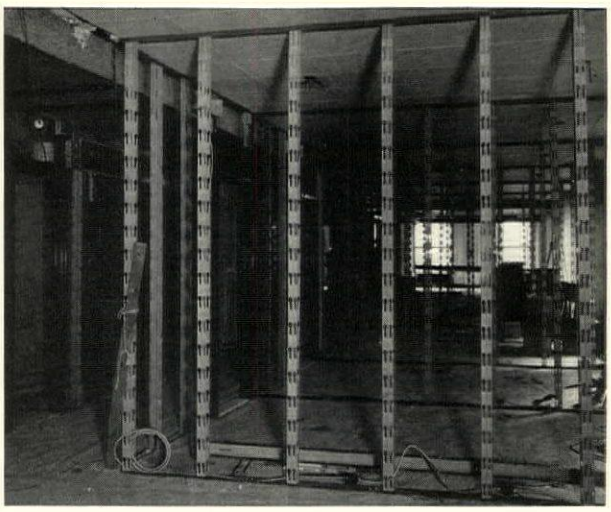
Besides effecting the required privacy, the use of this partition system contributed to two other requisites, attractive appearance and flexibility. The only limitation imposed upon appearance was the necessity of incorporating the joints in the decorative scheme, except in rooms which had all-over wall coverings. The degree of flexibility equals that of steel or wood partitions, there being no loss in dismantling and reconstructing, which can be accomplished overnight.

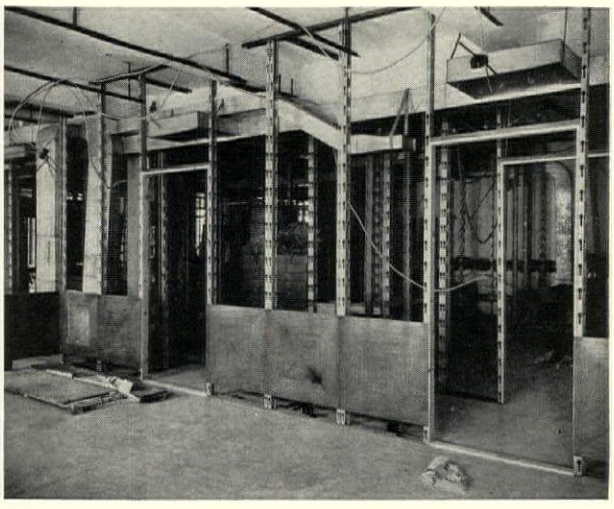
Floors and Ceilings. Coupled with the closed windows, the acoustic tile ceiling eliminates noise almost entirely. Uniform tile units, 12 x 12 in., are used throughout. Suspended from the ceiling, they are snapped into place to metal T-bars, and can be easily removed for access to wiring or ducts. The last attribute is an important one in obtaining maximum flexibility, for it permits changing of lights and duct outlets without any difficulty.

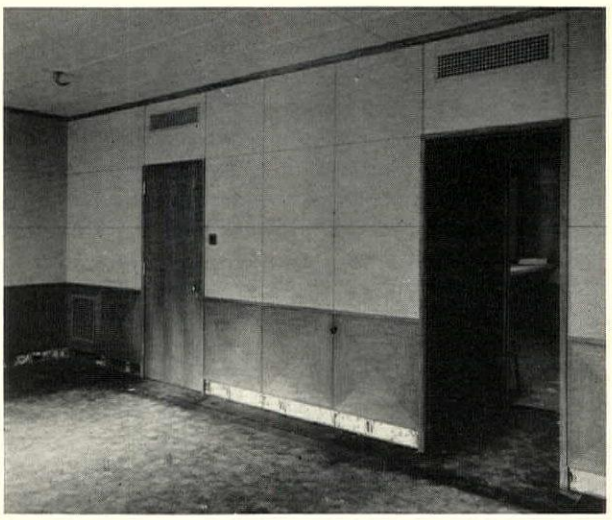
Similarly, the uniform asphalt tile flooring pattern contributes to the flexibility. Changes in the location of partitions can be made without disturbing the flooring at all. Tile has the further advantage of being repairable simply by lifting out the damaged unit and replacing it with another without disturbing the rest of the flooring.

One room is of special interest for its construction. In the computation office, where tabulating machines and other noisy equipment pound away all day long, the floor rests on isolation chairs and the ceiling has been hung from the building structure by steel spring clips. It is the same type of construction, usually referred to as floating construction, that is used in broadcasting studios.

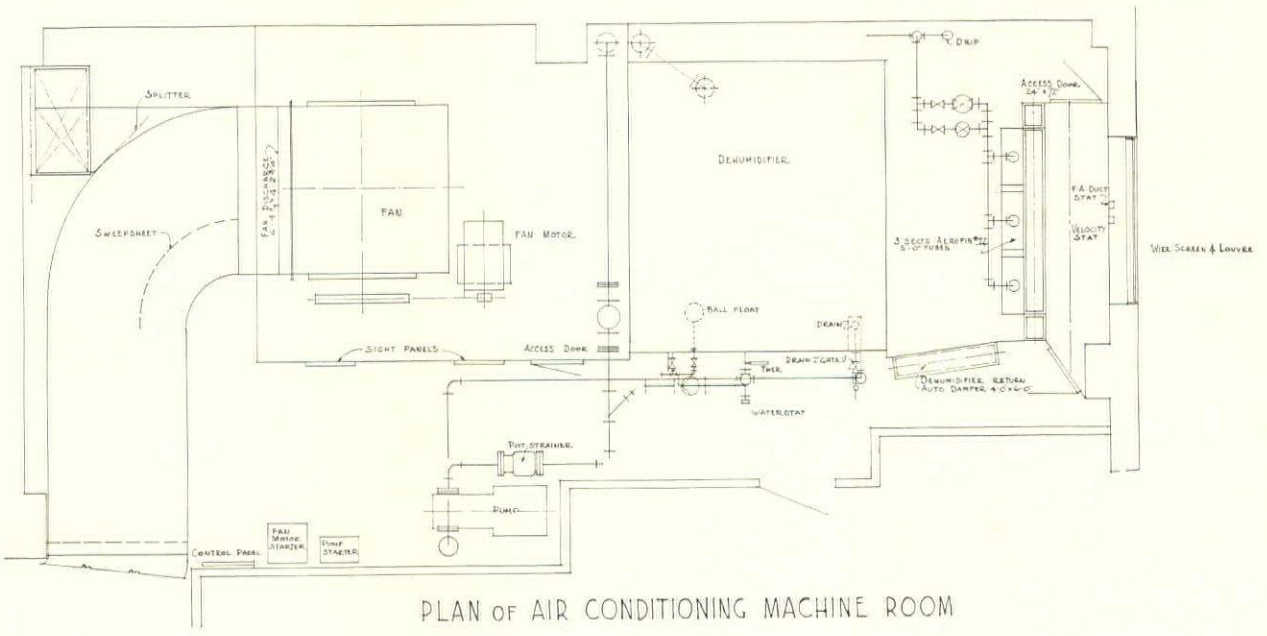
No minor contributor to office efficiency, comfort and appearance, the equipment was as carefully specified as the air conditioning system. Lightweight aluminum chairs, specially designed desks (no tables), and standardized cabinets mark the "organized business furniture" used in the general office space. Desks set in rows are wired from desk to desk through the desks, eliminating breaks through the floor for each connection. Waste paper baskets are built into the desks, and the compartments in each are laid out for efficiency as carefully as a building plan.





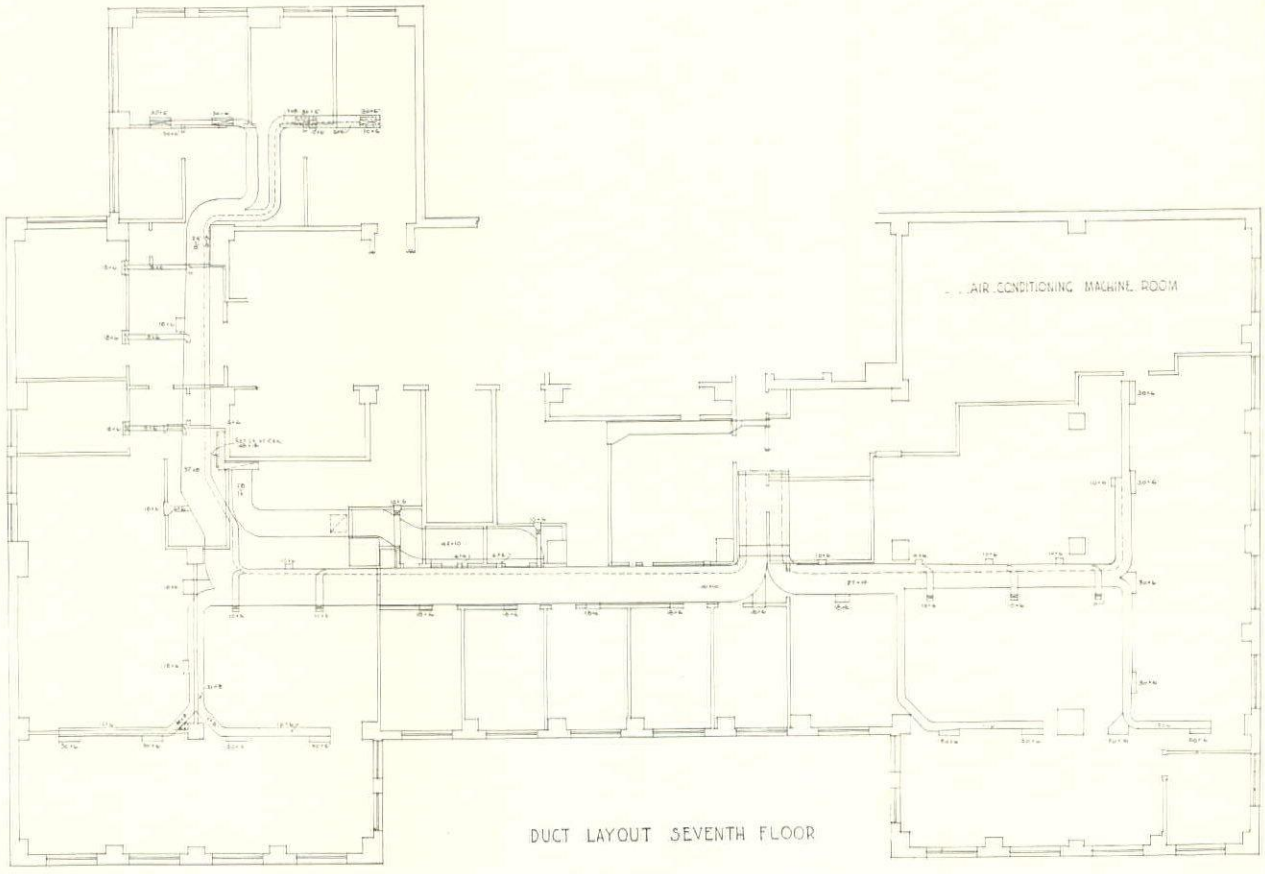


Steps one, two, and three in the erection of the partitions. No. 1 (at top) shows the studs set up over the finish flooring, with electric conduits running through the base. No. 2 (center) shows the dado secured to the studs; and No. 3 (above) the wall sheets erected ready for snapping the base into position. The entire operation can be accomplished in a few hours

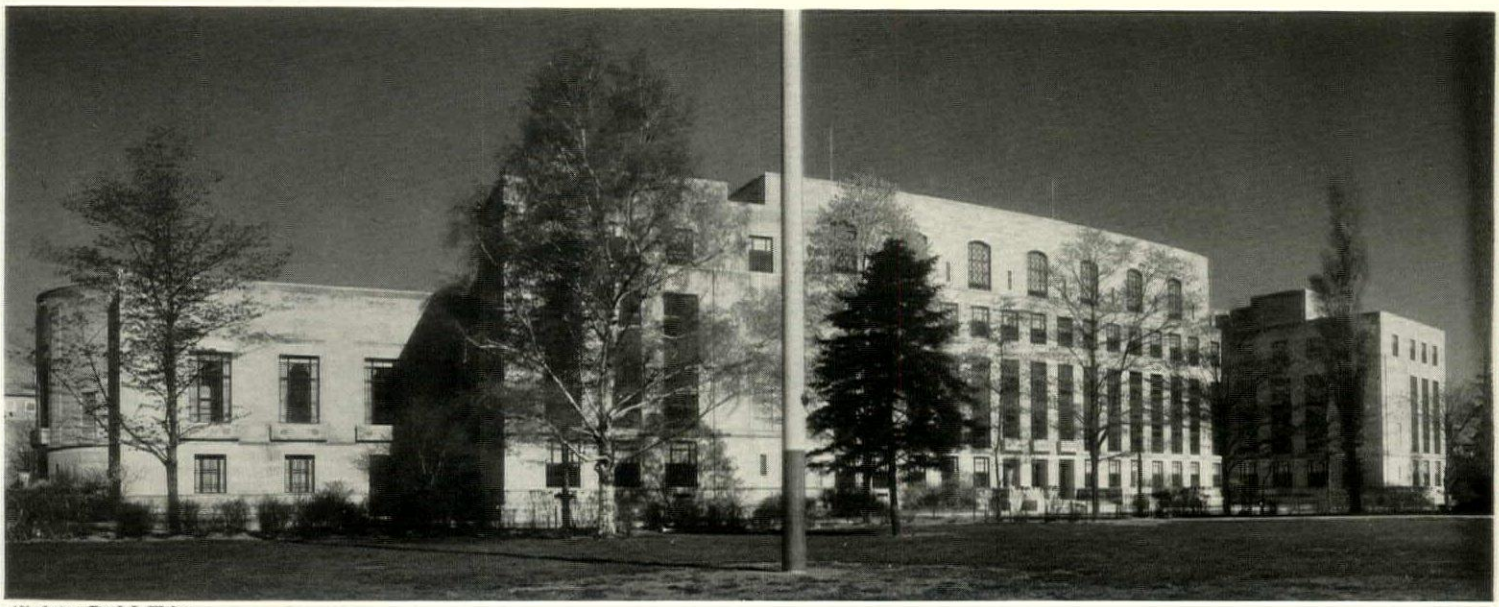


PLAN OF AIR CONDITIONING MACHINE ROOM

Below, duct layout for the seventh floor, showing the outlets leading from the ducts concealed in the corridor ceilings; and above, a schematic diagram of the equipment room on the same floor, housing booster pump, washer, dehumidifier and fan



DUCT LAYOUT SEVENTH FLOOR



All photos, Paul J. Weber

RINDGE TECHNICAL HIGH SCHOOL

CAMBRIDGE, MASS.

RALPH HARRINGTON DOANE, ARCHITECT

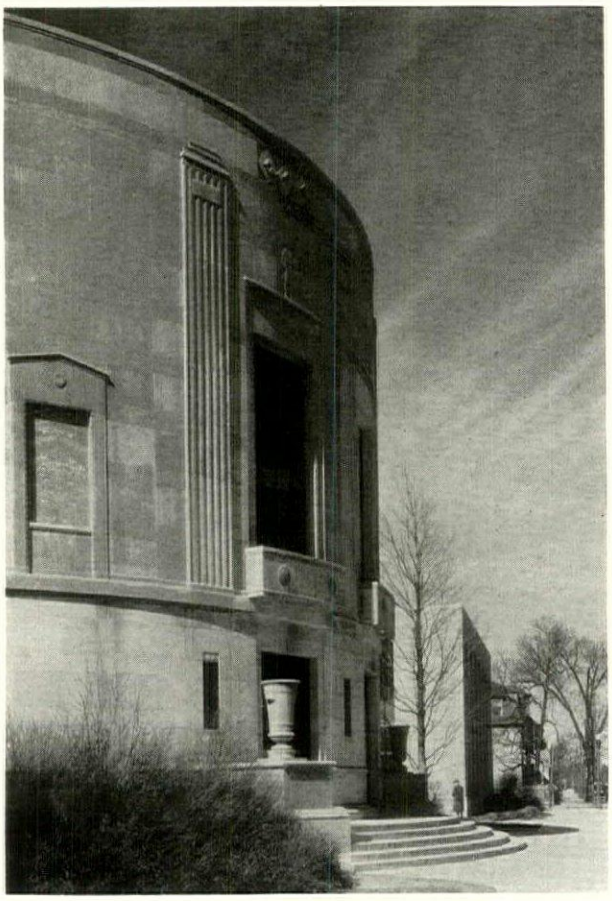
"And music thrills the limestone fell."

THE prophetic vision of the poet in his ode to Tyndarides (Horace, I, XVII) finds a fitting fulfillment in the well-favored, well-proportioned, symmetrical and harmoniously designed new structure which houses the Rindge Technical School in Cambridge.

Here is a new architecture that is as old as Sakkarah, and yet its designer could not possibly have had in mind the recent discoveries in the neighborhood of the "White Wall," for at the time the partié was settled, these discoveries had not been given to the world. The snapshots taken in Egypt last winter by Dr. Cram and shown on the screen early in January during the course of an inspiring relation of his travels in that incredibly amazing and ancient cradle of the arts, were the first intimation many of us had of the "intimate" architecture of the Nile Valley and the highly developed stage it had attained nearly 5,000 years ago. Today in Cambridge, in a brand new building, the same principles of design that governed the artists of the earliest dynasties in Egypt are exemplified and may be profitably studied and observed by traditionalist and functionalist alike.

The method followed by Ralph Harrington Doane in achieving this *coup de maître* was, like all fortunate results, simplicity itself. An examination of the plan reveals the astonishing fact that there is hardly a straight line or a right angle in the whole group, yet there is a dynamic symmetry about it that lends itself most naturally and graciously to an unusually high degree of expression in the exterior, rarely attained by even the most skillful and painstaking traditionalist, and which is practically nonexistent in most of the so-called "modern" buildings. Situated between two converging thoroughfares whose apex is marked by the new Cambridge Fire Station some few hundred yards farther on, the problem was whether to ignore the street lines or recognize them in some rational way. It was an opportunity and at the same time a challenge to the designer. The manner in which this challenge was accepted has resulted in a distinguished contribution to the architecture of a university city, already rich in noteworthy historic examples.

It must always be borne in mind that rigid economy is a prerequisite for municipally owned buildings. Upkeep and repair, cost of administration and sundry matters of that nature must be held down to a minimum, as likewise the initial expenditure. These principles have been closely adhered to in the



Entrance to gymnasium wing

Rindge School. Its purpose and nature would seem to demand an industrial type, and indeed, in that portion devoted to the shops, this type has been followed. Yet there is no disharmony between the purely shop section and the scholastic division. The designer has, with successful ingenuity, grouped the auditorium, gymnasium and academic departments on the principal frontage in a natural juxtaposition, and crowned all with a delightful cafeteria, airy, well-lighted and wholesome, situated where it is best placed, on the fifth story. Here the student may relax from his arduous tasks, the clank of the forge, the test tube and the retort, the intricacy of pattern making, and enjoy the needed period of metastasis, lacking which, authorities tell us, Jack becomes a dull boy.

The elements that compose the plan fall thus naturally into a logical sequence that immediately impresses even the casual visitor by its orderly arrangement. Just as the units of the plan are disposed with studied care, so too are the masses and the solids and the planes that compose the external expression of that plan. The masses are grouped in two-, three-, four- and five-story heights, forming a composition favored alike by architects from the time of Imhotep to Frank Lloyd Wright. The delicacy and refinement with which these masses have been studied, however, is worthy of either of these masters.

A celebrated architect and a great one, in the minds of many (M. Vitruvius Pollio), said that architecture depends on taxis (order?), diathesis (constitutional predisposition) eurythmy, symmetry, propriety and economy. To bring to consummation these requirements, Doane spent months of study on the plan, *en loge* in his office. Sketch after sketch was rejected, revamped, boiled down and generally maltreated, until finally a result was reached that seemed to solve the problem. This was all study on the plan alone. Then one Spring morning, a $\frac{1}{32}$ in. scale elevation was set up, just to see how the masses would compose. After a dark background was rubbed in with a stump, so outlines of the buildings would be apparent, it looked pretty good. The little sketch was thrown up by photography to $\frac{1}{8}$ in. scale, and it looked even better, just as size alone lends impressiveness to the splendid great drawings of Hugh Ferriss and his school.

It seemed almost too true to be good, so they made a little $\frac{1}{32}$ in. scale model out of a dozen or so cakes of Ivory soap that fitted together with tholepins, in order to test the sketch and allow of the different elements being variously adjusted. Having convinced himself that further study and change — for all this took months, you know — would be fruitless, Doane proceeded with the working drawings.

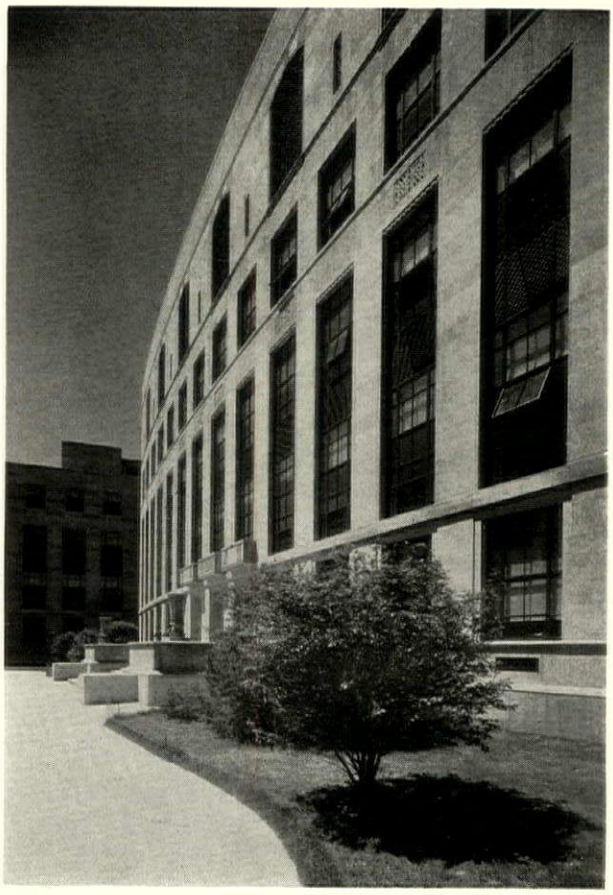
Now here's where the interesting part comes in, and the secret why every detail is as nearly right as it is humanly possible to make it. With the cooperation of George K. Loeser — a sympathetic and highly trained craftsman in wood and stone, a man endowed with imagination and an unusual degree of artistic technique, matured by long years spent in the atelier of John Evans — full size models were made, not only of the ornamental parts, but of the moldings, belt courses, window sills and balconies as well. All this was done as the drawings were being made, Loeser modeling a belt course, the engineers taking soil borings, and the structural sharks working their slide rules to find the required sizes of footings and girders and lintels and slabs, etc.

After all, who can tell just what is the proper section for a molding anyhow until it may be observed in place. In order to predetermine this vital point, Loeser made various sections 5 or 6 ft. long and found wherein they seemed to lack distinction. By running his thumb over an arris, digging in a fillet here, setting back a plane there, forgetting the drawing entirely and all the traditional forms and pet *clichés* of the clever draftsman; in other words, merely by studying the value of light and shade, emphasis, diathesis, eurythmy, etc., some most astonishing discoveries were made.

Thus by the cooperation of the designer and modeler, a few new-old principles and many puzzling points were settled that even architects, supermen though they may be, frequently do not realize until it is too late. Who has not bewailed the appearance of his executed moldings, cornices and belt courses and the projection of sills, and resolved to correct their faults next time? How long that time may be in coming, we are now beginning to realize. Is it not simpler, and in accord with taxis and economy, to follow the Doane system of studying a building's details in clay before the working drawings are finished (provided, that is, if one ever has another chance), then take careful measurements and incorporate the result on the scale drawings and full-size details before the plans go out for figures? As far as the expense to the architect is concerned, modeling has always, and properly, been considered a part of the building cost. It can either be taken care of in an allowance in the specifications or apportioned among the various trades and subcontractors. The unskillful use of moldings is a hindrance to good design; it is of the utmost importance that they be just right. The method herein described may have been employed by the well-greaved Archæns whose hypotrachelia surely merit the lyric eulogies of Ferguson, whom the unthinking consider an old fussbudget.

To those who may wonder whether the curved lines of the plan entailed added expense, it may be said that the radius was so long (its center being some three blocks away in the pronaos of the fire station) that a variation of $\frac{1}{32}$ of an inch in four feet was sufficient to meet it. Consequently the stone ashlar was cut in the usual way, except for the curved ends of the auditorium and the gymnasium. The drafting expense in the architect's office, however, is another matter. How the feat of transferring to cloth all those curves and radial lines, whether by a series of T-squares with flexible blades, a set of railroad curves, drawing boards with entases, or whether it was all by mirrors and variations worked out by rhabdomancy, aliquot parts, and such like mathematical arcana, one hesitates to ask. A steely glitter in Doane's eye when the subject was broached forbade further questioning.

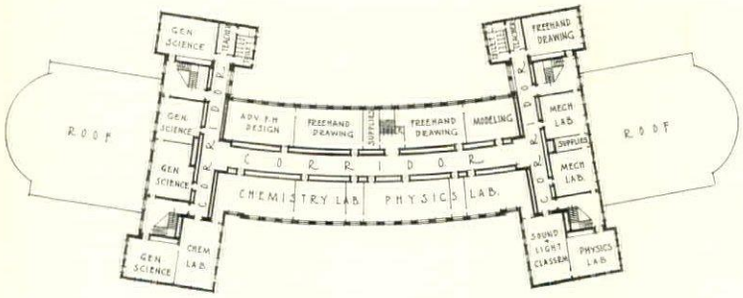
If one had any criticism at all, and it is offered in all humility, it would be that the carved panels at the third and fourth floor levels are just a hair, just a wee bit low in relief. When the sun is shining brightly on them at a favorable angle, they seem in perfect consonance; in shade the finer nuances are lost. Our climate is a difficult one; we have our share of sunshine, but it is rarely as brilliant, for sustained periods at least, as the sunshine of Miami or Der-el-Bhari. The panels themselves are exquisitely lovely and a delight to behold. How they would appear forty or fifty feet above the eye could not be judged, of course, in the modeler's shop. Very likely they're all right anyhow, as they are.



The curved main entrance front

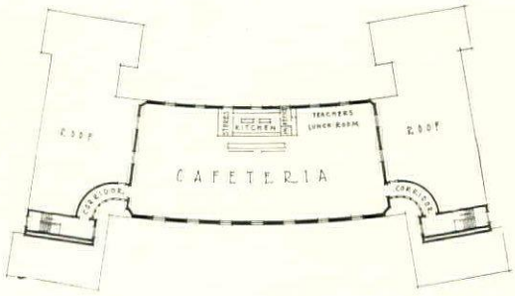
After a long and bitter struggle for æsthetic expression in scholastic architecture, lasting from the time when the Little Red Schoolhouse became inadequate to the needs of a population increasing in geometrical ratio, higher standards than prevailed during the brown, the mauve, the yellow and the pink decades are being insisted upon by wise counselors in those communities endowed with an appreciation of the value of good buildings. We may have gone to extremes possibly at times. The natural reaction, when once one gets into one's stride, is to overdo it, give free rein to fancy and indulge in an orgy of medievalism, or lavish the opulence of inflation on the rich and juicy venialities of the eighteenth century. The impulse, misdirected though it may be on occasion, is in the right direction. The need for artists with a true and balanced appreciation of all that architecture means, as defined by M. Vitruvius Pollio, is now greater than ever. Ralph Harrington Doane, in his Rindge Technical School, has solved the problem and met that need. It is an inspiration and a promise for the future of American architecture.

Hubert G. Ripley



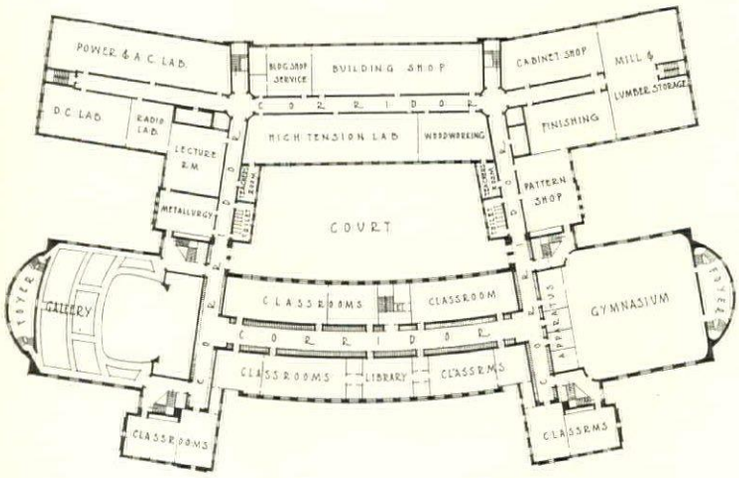
FOURTH FLOOR PLAN

SCALE



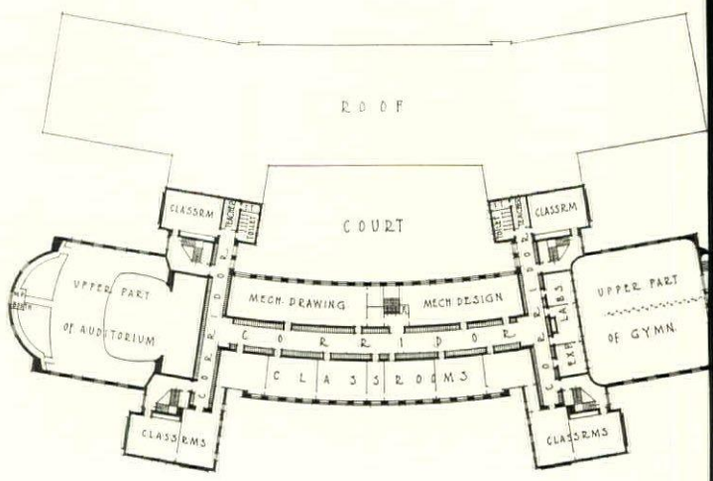
FIFTH FLOOR PLAN

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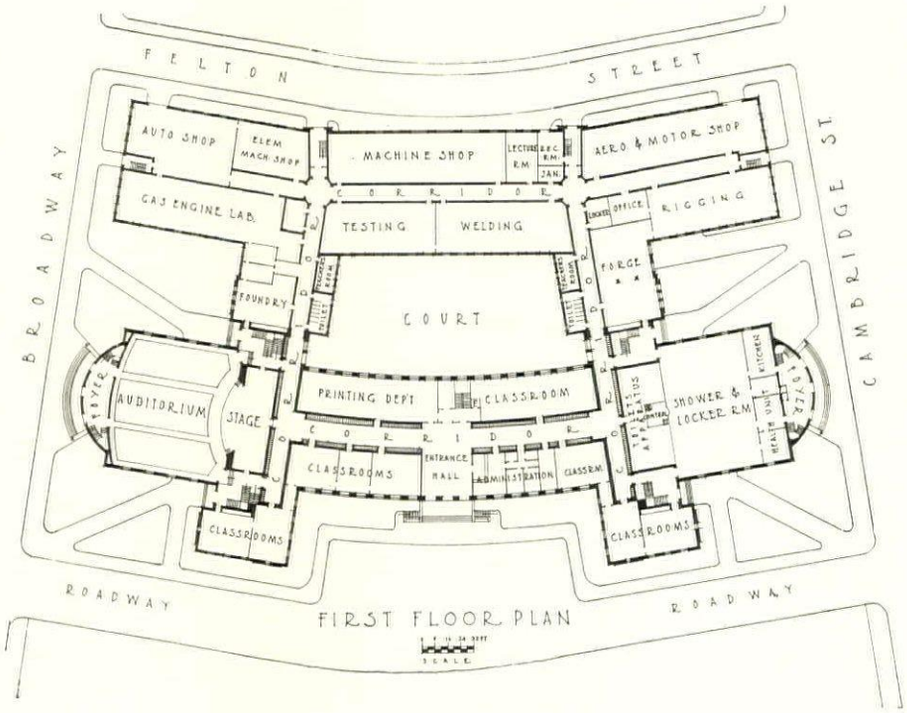
SECOND FLOOR PLAN

SCALE



THIRD FLOOR PLAN

SCALE



FIRST FLOOR PLAN

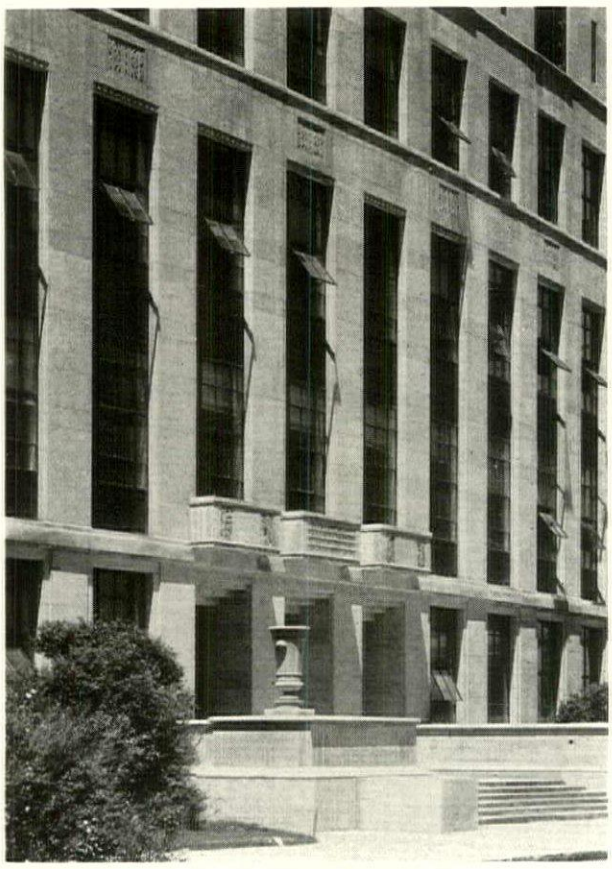
SCALE



ENTRANCE to the auditorium. The three doors lead to the main foyer from which stairs lead to the gallery foyer. Access to the auditorium is also gained, from the school proper, through doors at either side of the stage. These doors can be closed for evening functions making the auditorium practically an independent unit, a great advantage. . . Every detail of the decorative elements, the sculpture, moldings, belt courses, and balconies, was carefully studied in full size models, the sculptor George K. Loeser collaborating with the architect to produce the desired result

RINDGE TECHNICAL HIGH SCHOOL, CAMBRIDGE, MASS.
RALPH HARRINGTON DOANE, ARCHITECT





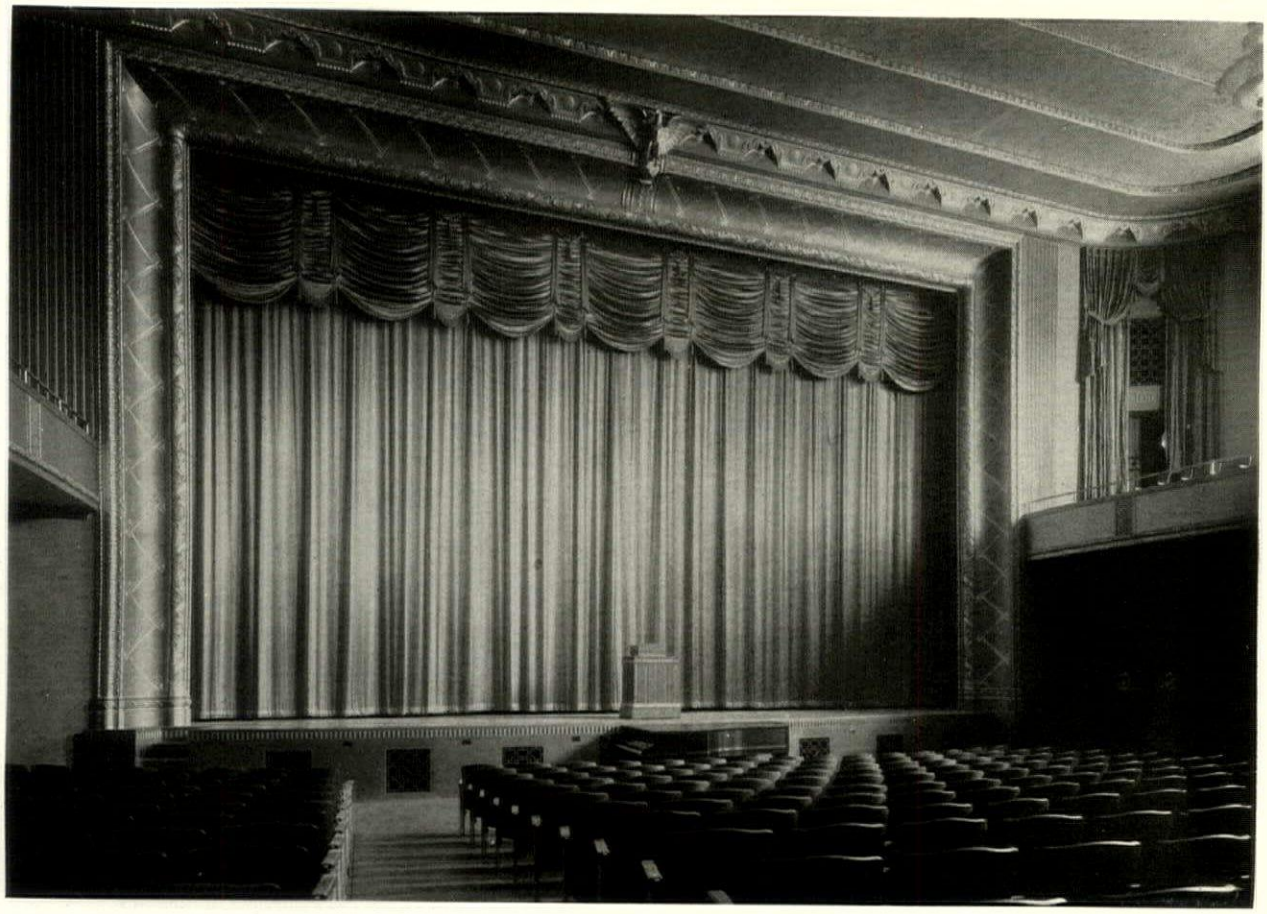
(Above) The shops and laboratories are arranged on two floors in this portion of the building which graces Felton Street. The large doors give access to the aero and motor shop. The direct and simple treatment of this well-proportioned facade is a straightforward expression of the purposes of the building. The metal louvers which serve the unit heaters give character to the spandrels of the windows, making a virtue of a necessity. (Left) The main entrance, leading to the classrooms and the administration offices

RINDGE TECHNICAL HIGH SCHOOL

CAMBRIDGE, MASS.

RALPH HARRINGTON DOANE

ARCHITECT





(Above) The auditorium accommodates 1,500 in all, seating the entire enrollment of the school. The color scheme is a pleasing and restful combination of gold, copper and warm gray. The stage is ample, the procenium being some 45 feet in width. The fly gallery is about half the height of the procenium. Exhaust vent grilles are decorative under the stage front; the supply grilles are incorporated in the design of the ceiling. (Right) The glass chandeliers are provided with 750 watt lamps and small auxiliary bulbs, controlled by dimmers

RINDGE TECHNICAL HIGH SCHOOL

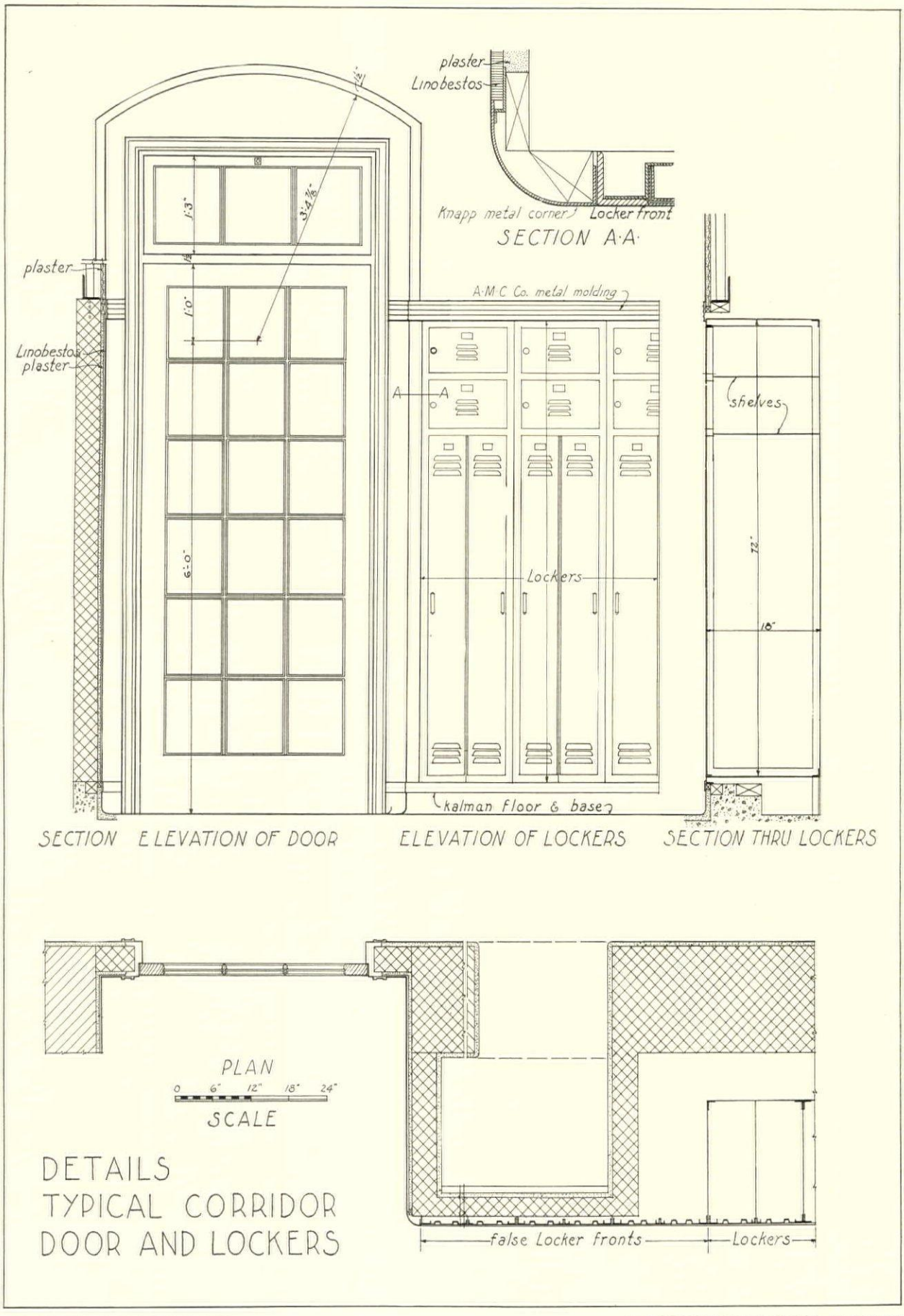
CAMBRIDGE, MASS.

RALPH HARRINGTON DOANE

ARCHITECT

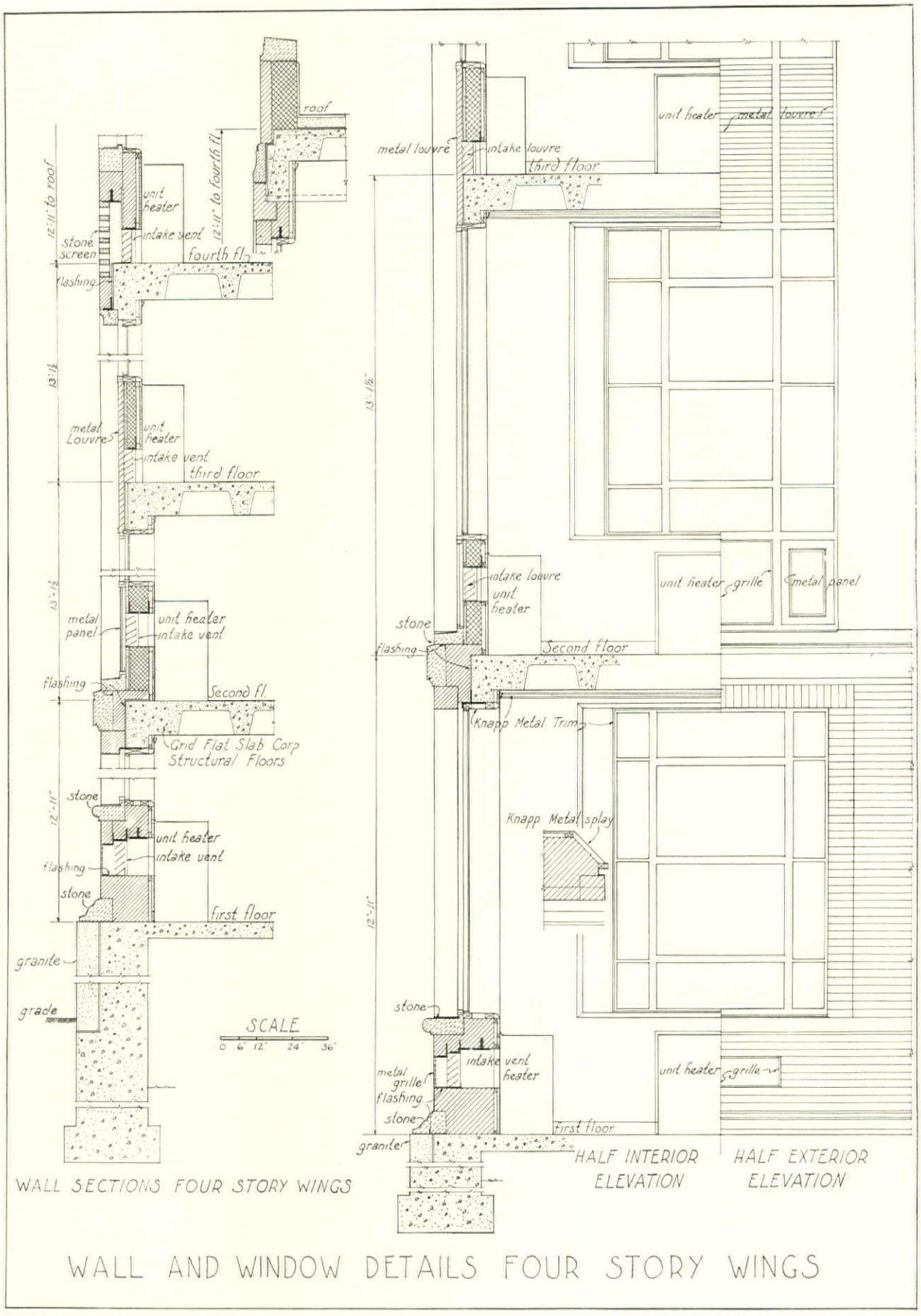


Ceiling coffers are the natural and planned result of the structural system which employs pan forms for the concrete. Light gray walls contrast with the purple-maroon of the locker rows. The floor is rich Pompeiian red



RINDGE TECHNICAL HIGH SCHOOL

RALPH HARRINGTON DOANE, ARCHITECT



RINDGE TECHNICAL HIGH SCHOOL

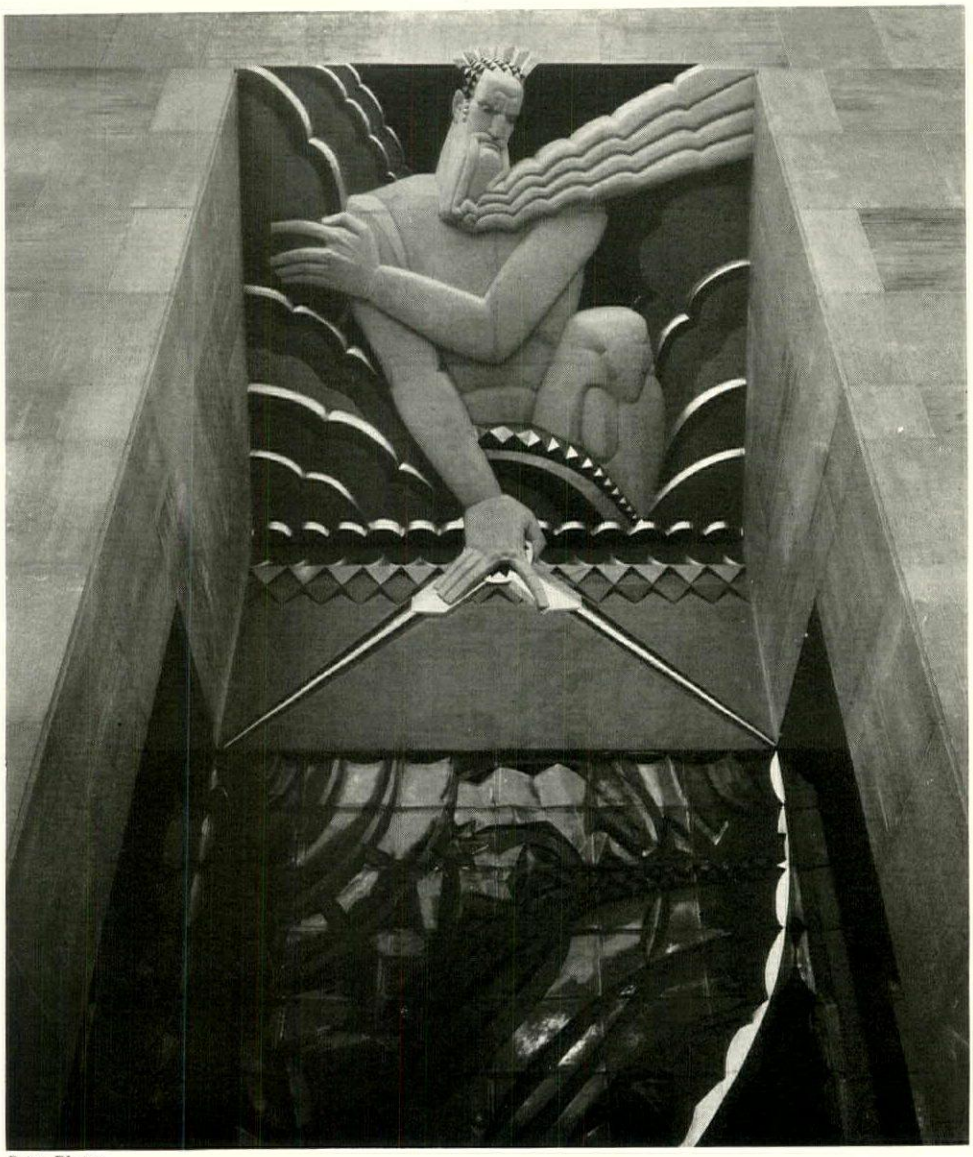
RALPH HARRINGTON DOANE, ARCHITECT



RCA BUILDING
ROCKEFELLER CENTER
NEW YORK

REINHARD & HOFMEISTER
CORBETT, HARRISON & MacMURRAY
HOOD & FOUILHOUX
ARCHITECTS

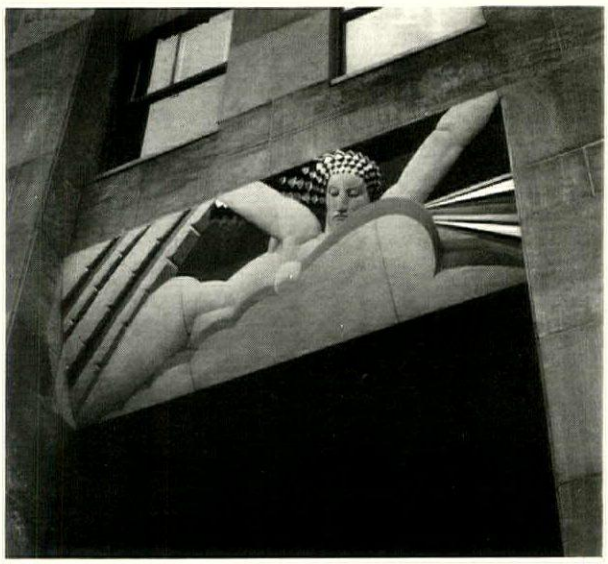
Editor's Note. *The following pages contain only a preliminary presentation of the RCA Building. In an early 1934 issue, after the building has been completed, a more thorough study of its many unusual features will be made.*



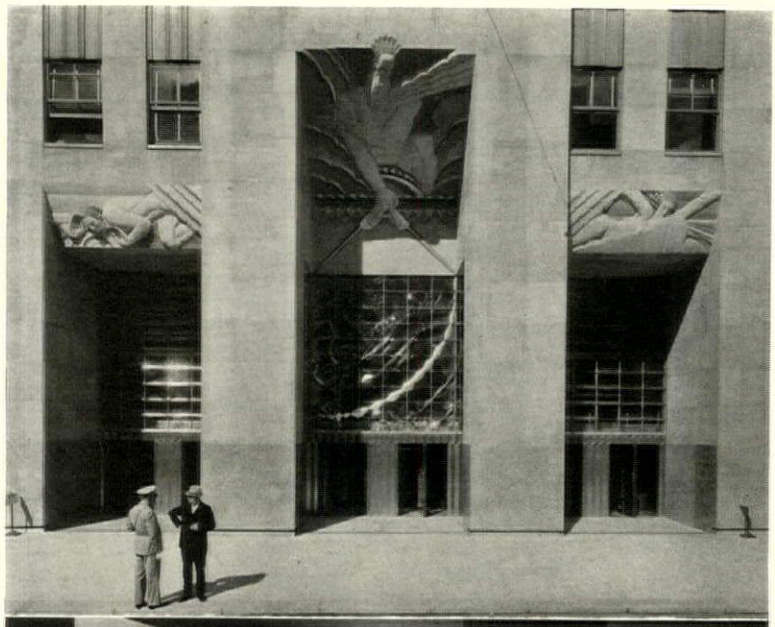
Rotan Photos

Polychrome Sculpture, RCA Building, Rockefeller Center

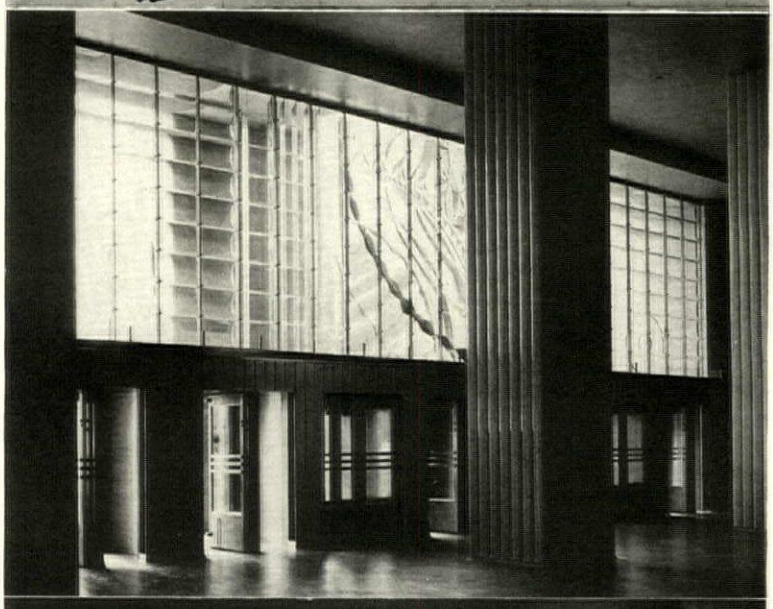




On the opposite page, "Wisdom," as conceived by sculptor Lee Lawrie, looks down from the clouds over the central section of the main entrance to the building. Above the flanking sections are figures representing "Light" and "Sound." The effectiveness of the sculptured treatment is enhanced by the use of polychrome by Leon V. Solon, and by the cast glass wall below



The main entrance, right, is 55 ft. wide, divided by three massive limestone piers. The central section is 37 ft. high, and the flanking sections 27 ft. high



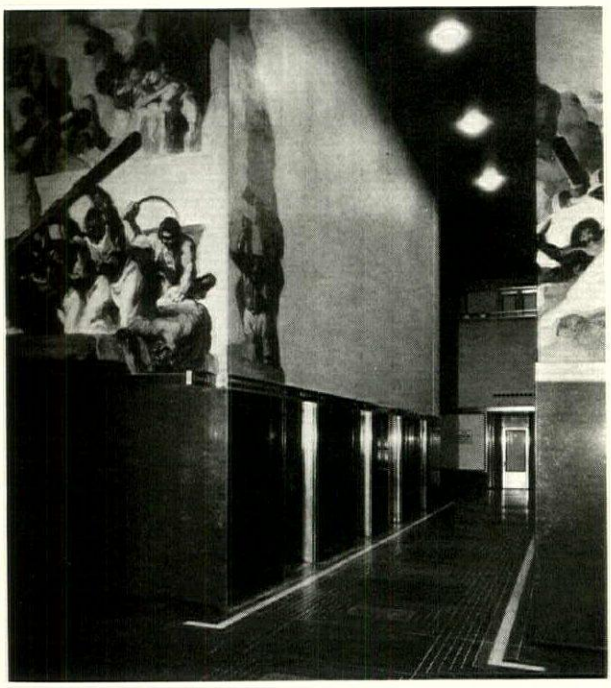
The cast glass wall, 55 ft. long and 15 ft. high, is molded in high relief. It is constructed of uniform blocks, 19 x 29 x 3 in., bonded by vinelite, and reenforced by steel rods



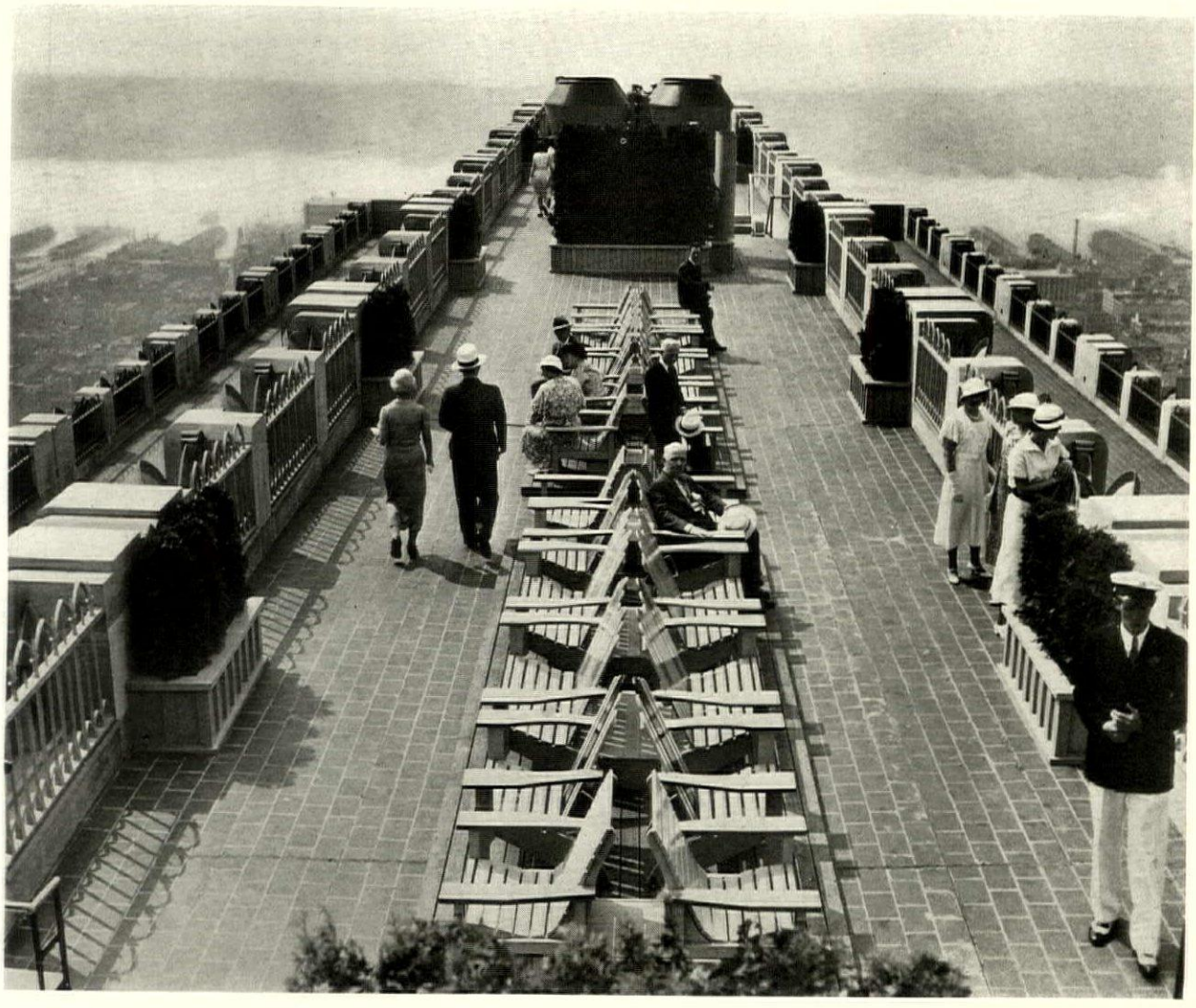
The lobby interior makes effective use of the color contrast between the ivory veined marble piers and the Swedish green and Champlain gray wainscoting and walls



José Maria Sert's murals coupled with others soon to be completed by Frank Brangwyn supply the principal decorative note of the extensive lobby

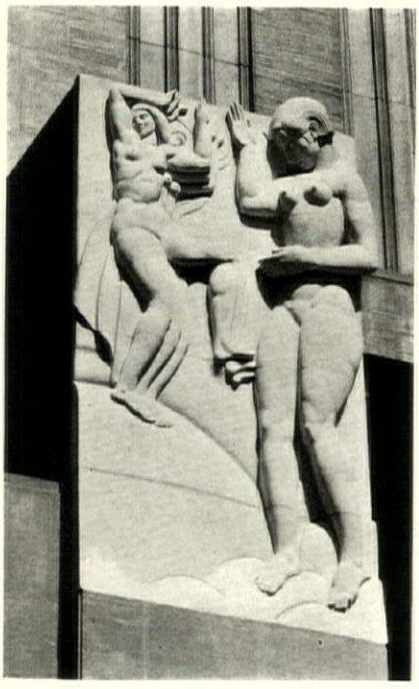


Champlain gray marble, which is almost black in color, is used for the wainscoting below the murals. The floor is a brass and terrazzo mosaic

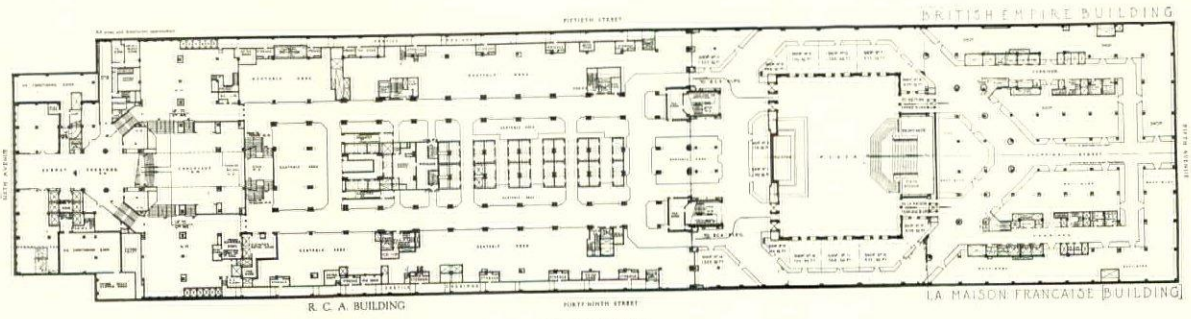




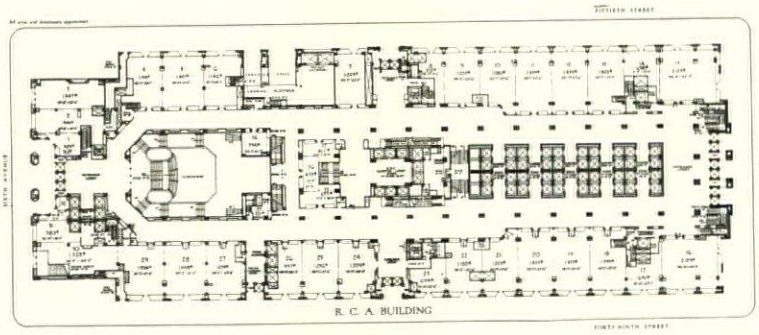
Atop the 70-story building is a protected observation gallery, which is only part of the recreational development now under construction for the upper floors

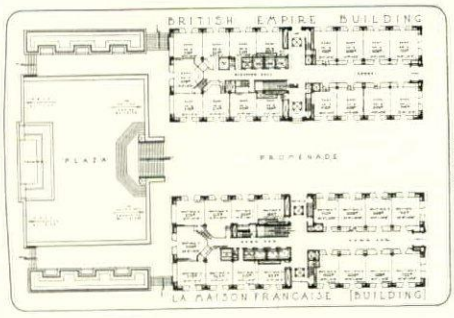


Leo Friedlander's sculpture crowns the pylons on both sides of the south entrance. They have been modeled to eliminate distortion resulting from looking up at them

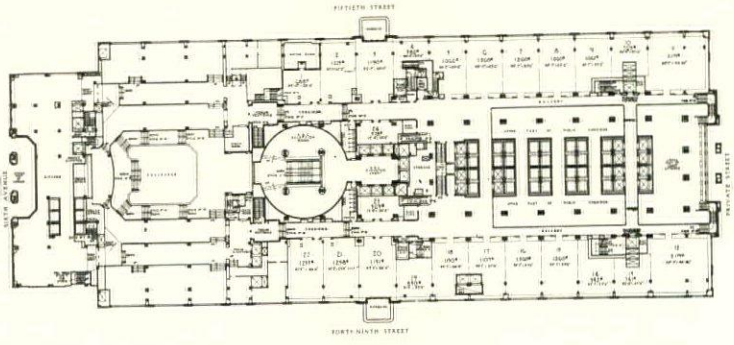


BASEMENT

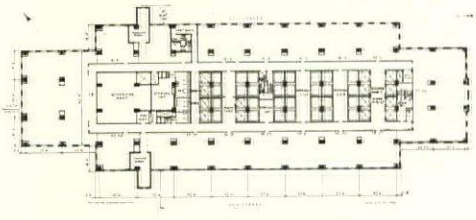




GROUND FLOOR



MEZZANINE



TWELFTH FLOOR



SIXTIETH FLOOR

RCA BUILDING
ROCKEFELLER CENTER

REINHARD & HOFMEISTER
CORBETT, HARRISON & MacMURRAY
HOOD & FOUILHOUX
ARCHITECTS

FORWARD HOUSE

EVER since the day that someone, perhaps it was Corbusier, said that a house was a "machine for living," critics have delighted in complaining that the weakest link in American architecture was the lack of original thinking in planning and designing small houses. In several hundred essays it has been written both caustically and graciously that the supremacy established by our skyscraper architects has not been supported by the imitative work of our residence architects.

Without granting the truth of the assertions, it seemed that it would be an interesting experiment to have a number of architects in the Empire State, Rockefeller Center and Chrysler Building class turn away from the tall towers to give small houses the benefit of their thinking. In collaboration with R. H. Macy & Company, New York's largest department store, THE ARCHITECTURAL FORUM invited eight of the city's most noted architects to contribute designs for small houses to the exposition of modern living being conducted by the New York store.

The architects who agreed to participate were Harvey Wiley Corbett, Arthur Loomis Harmon, Raymond Hood, Ely Jacques Kahn, Leonard Schultze, William Van Alen, Ralph Walker and Lawrence G. White. From their plans and elevations models were built by unemployed architects, obtained through the Architects Emergency Committee of New York, under the direction of Edward Townsend Howes.

In addition to the models, the exposition titled "Forward House" consists of a series of thirty rooms, all designed in the modern spirit. In collaboration with Harold Sterner, consulting architect for the exposition, and Laurence Scacchetti, architect in charge of construction, the rooms were designed by two members of the R. H. Macy decorating staff, Helen Wells and Helen Needham.

It was suggested, probably needlessly, that the architects approach the problem of the small house in the same way that they would study the problem of a large building, emphasizing the most efficient planning, the most logical construction, and the most suitable design. They were to be houses as thoughtfully adapted to the business and pleasure of living as skyscrapers are to the functioning of commerce and industry.

The houses range in type from the pure classic design that Lawrence White produced to the copper-clad ultra-modern house that William Van Alen conceived to be as the logical answer to modern living conditions.

It is significant that none of the eight architects aligns himself with the group that believes the house of today or tomorrow is inevitably headed for universal standardization. Each insists that the home remains a problem for individual study — successful only in so far as it suits the needs of a specific family.

The Corbett house is an exposition of planning and design through use of large sized units for wall, floor and roof, which are shipped from a factory completely finished ready for construction. Taking the wholly opposite view that at the present time the more familiar materials are more suitable for residence building, Harmon designed a house of brick.

The theory behind the Hood house is that, because outdoor living in most sections of the country is possible seven months during the year, more serious effort should be made in small houses to provide as much outdoor living area as possible. Ely Kahn proceeded upon the theory that small houses could be designed on the same "common sense" principles as tall buildings. He satisfied himself that he had a workable plan and then composed a self-expressive exterior that conformed with the principles of good design.

Leonard Schultze and Lawrence White both defended architectural precedent on the grounds that the older styles were as well adapted to modern living as the flat-roof, terraced houses with which modernity is usually associated.

Ralph Walker envisioned his house as one which would "give direction to a desired way of living with an increased leisure, to the quality of manners that go to make up that way of living, to the type of space for it to move in, and to the mechanics of it, so that work within it is reduced to a minimum."

Van Alen was the only one who supported the currently popular theory that metal-clad houses will provide the answer to future residence construction. He designed a house completely wrapped in copper.

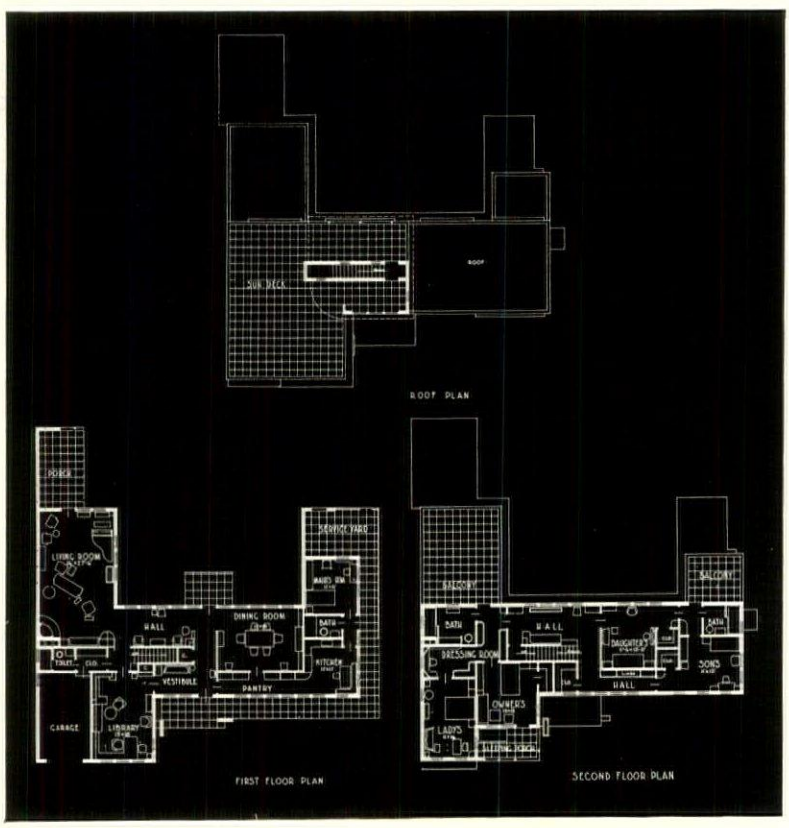
The houses, the result of this interesting experiment, are reproduced on the following eight pages, together with descriptions and brief explanations of the philosophy behind the designs.

We are informed that as many as 50,000 people have visited this exposition in one day and the average is about 25,000 visitors each day. Such an exposition cannot fail to have an influence on home owners and prospective house builders and may inculcate some new ideas in the minds of the consuming public.



SUN HOUSE

HARVEY WILEY CORBETT, ARCHITECT



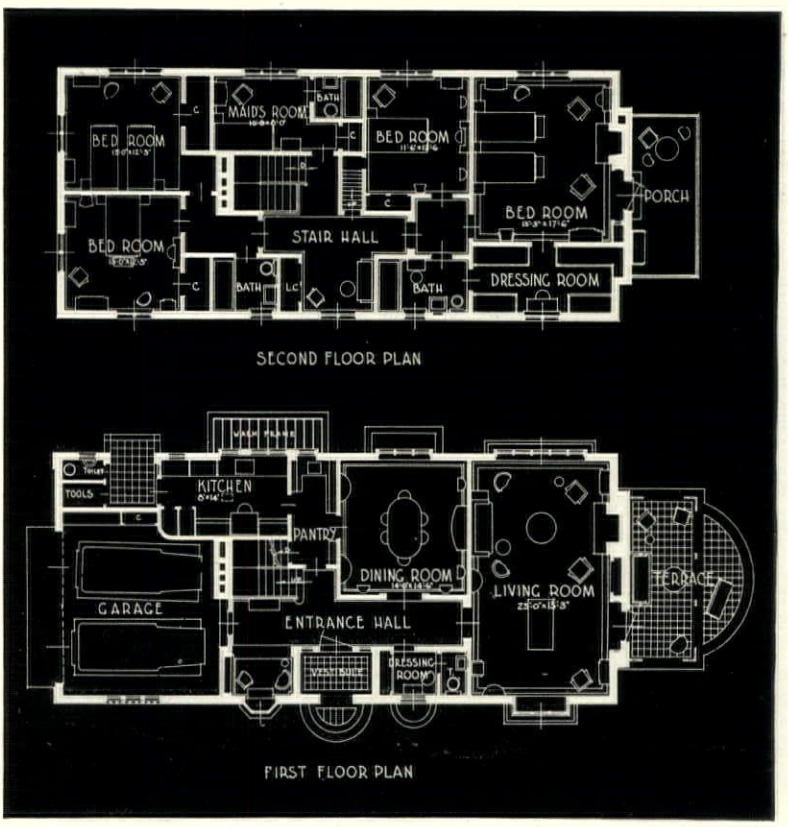
The afflictions, both disagreeable and kindly, that the average home owner endures today at the hands of his neighbors, Sun House is designed to eliminate. The design is based on unit construction. The different parts which enclose and divide the house are of standardized sizes and shapes. They are prefabricated, delivered to the site, completely finished, and there assembled by simple mechanical devices. The property is divided by the house into three parts: a fore garden, a service yard and the garden proper, which is comparable in function and privacy to an outdoor living room. Since it is the intent of the design to incorporate enclosed and open spaces into an organic whole, the living room, dining room and inner hall, as well as porch and balconies, open toward this garden. The keynote of the design is freedom of communication, full access to light and air, and privacy. Finish, equipment and a well-balanced grouping of furniture will add the note of comfort and simple beauty. The plumbing for the house is concentrated in two sets. Heating is effected by direct radiation from the room-enclosing surfaces, the heat source and the ventilating unit being placed in a special compartment located on the first floor, back of the garage. Of the total lot area, 19 per cent is occupied by the house, 26 per cent by the fore garden, 3 per cent by service yard and access spaces and 52 per cent by the garden

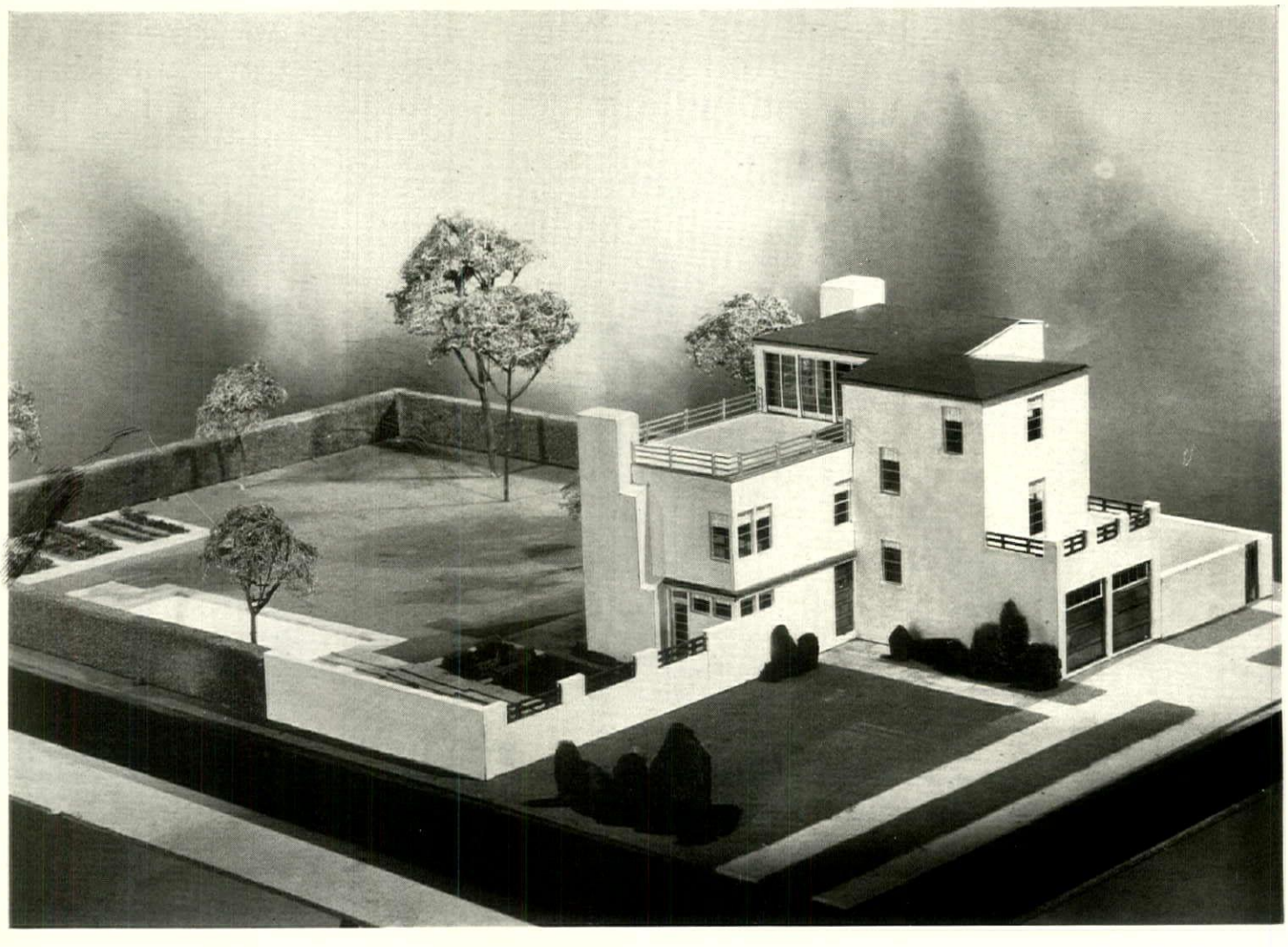


GROUND HOUSE

ARTHUR LOOMIS HARMON, ARCHITECT

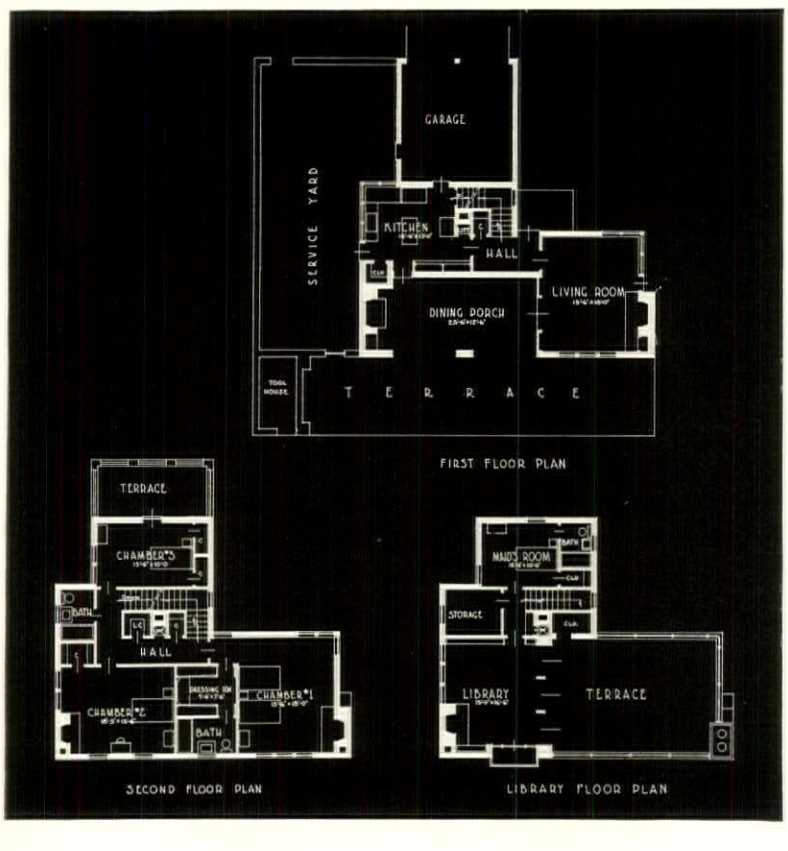
In designing this house, I have had in mind an imaginary family who, I think, might enjoy living in it. And it is not only a house they could afford to build but one in which they could afford to live. Economy in designing a house consists primarily of three things: (1) maximum living space for the money; (2) cheapest good construction; (3) minimum cost of upkeep. I believe that a house should be as close to the ground as possible, as this enhances the feeling of contact with the outdoors. It is a doubtful expedient to try to effect an inside-outside compromise in the living areas. If a family wants to enjoy the outdoors, the place to enjoy it is outdoors. . . . As to methods of construction, while I should prefer to adopt for its interest new methods of construction for walls, etc., I believe that at the present time no one of the modern exterior wall constructions has been demonstrated by use and time to be as cheap or as good construction as the older methods in use — say a brick wall. As to the roof, the only flat roof known to me which is as cheap or as waterproof as a sloping roof is, perhaps, a slag roof. This cannot be walked on. . . . The exterior would be 8 in. brick wall, whitewashed on the outside and furred, lathed and plastered on the inside. The roof would be on wood timbers covered with slate or tile. The interior partitions and floor constructions would be of junior steel beams and slab construction (if the cost permitted)





OUTDOOR HOUSE

RAYMOND M. HOOD, ARCHITECT



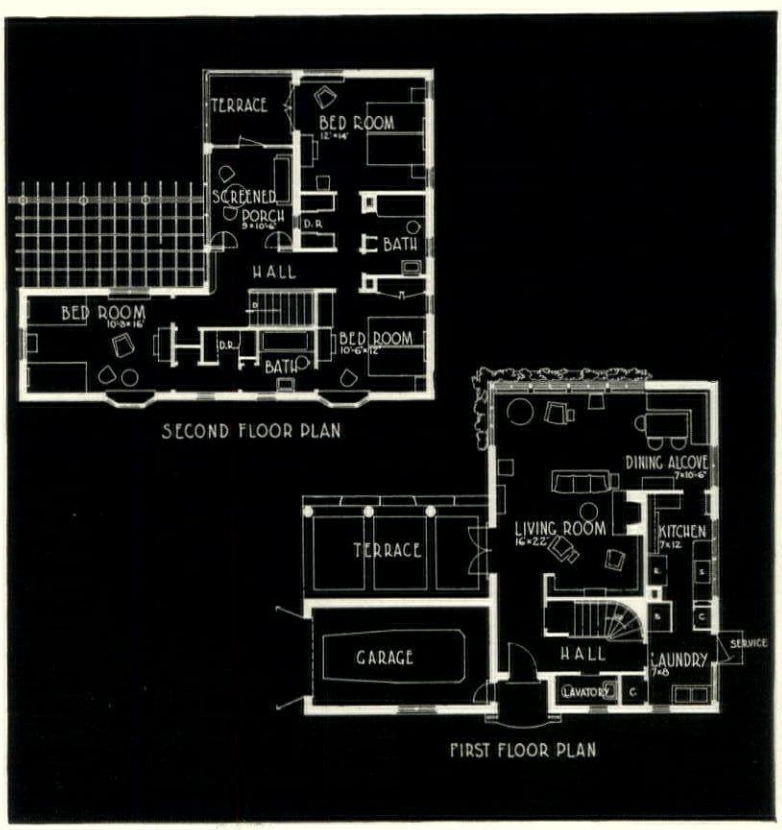
A house in the suburbs, or in the country, should be more than just a house. It should be a house and a garden with the garden more livable than the house. In our climate we can live for seven months or more in a garden if it is properly arranged and studied. An open porch, facing south and protected from the north winds, is the link by which the garden flows into the house and the house flows out into the garden. It is neither screened nor glazed. Enclosed as it is on three sides with masonry walls and open toward the south, it absorbs and reflects the sun, and with an occasional fire in the outdoor fireplace it is a thoroughly warm and cozy retreat, even on chilly days. I consider such a porch the most important feature of the house, and have, therefore, built the house and garden around it. In this project the house is placed close to the street. The two-car garage is placed on the street so that no property is wasted in the driveway between street and garage. The garage opens directly into the kitchen, giving the most convenient access to the house. Both the living room and the kitchen open directly on the porch so that there is a minimum of steps for the housewife or the maid. In this outdoor house no dining room has been provided. Meals can be served on the porch, in the garden, or, on the occasional rainy day, in the living room. The library with its own roof terrace overlooks the garden. Quiet and privacy are obtained here, not by the usual shutting of a door, but by separating it from the rest of the house



COMMON SENSE HOUSE

ELY JACQUES KAHN, ARCHITECT

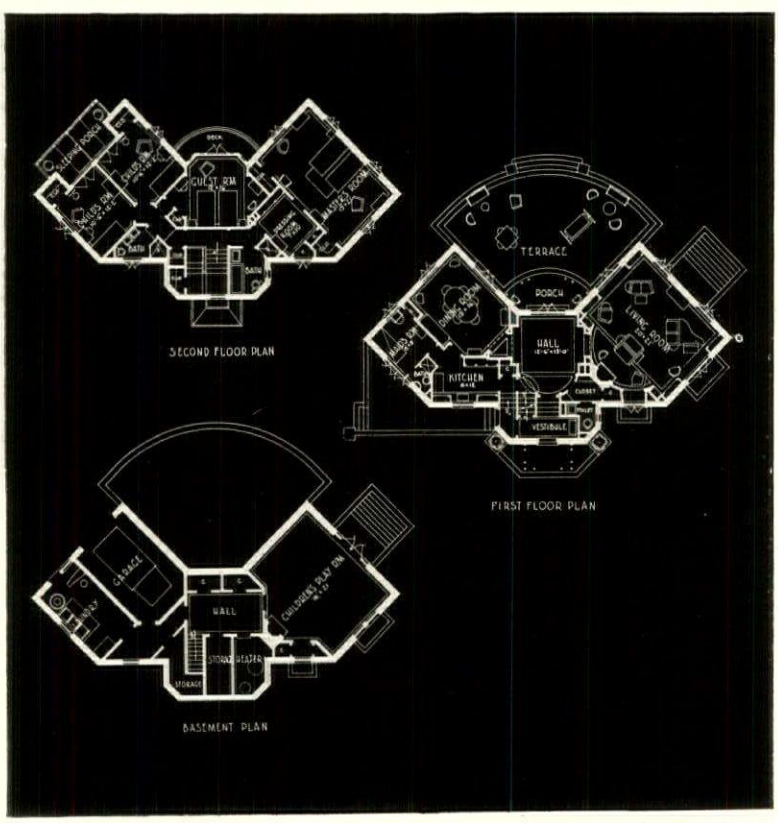
A small house is largely a matter of common sense — interpreting the needs of a particular family in terms of plan, its taste in terms of design, and its pocketbook in terms of size and materials. This house is a simple home of brick, the framework of the intermediate floors and roof either of timber or of light steel. I have long felt that in a small house too much space is wasted on collections of small rooms, halls that are expensive and useless. For actual living, a maze of rooms is more often a handicap than a convenience. There is no cellar. We have placed the boiler for heating in the laundry. Incidentally, air conditioning with summer cooling is merely a matter of additional expense. The kitchen has been planned as a step-saving work-space. The equipment is all electric — range, cabinet and dishwasher — with steel cabinets easily reached and conveniently sized. . . . Air space over the bedroom ceiling will amply insure protection from cold or heat. The ground floor terrace can become an open air dining area, overlooking the garden beyond. The second floor terrace provides a screened area which may be used as a sleeping porch or sitting room. The partitions throughout may be built of a plasterless material such as transite, which permits a wall of fireproof construction with any desired finish — wood, paint, paper, cork, readily moved and with no question of disturbance from the fuss of dusty construction, plaster or moisture



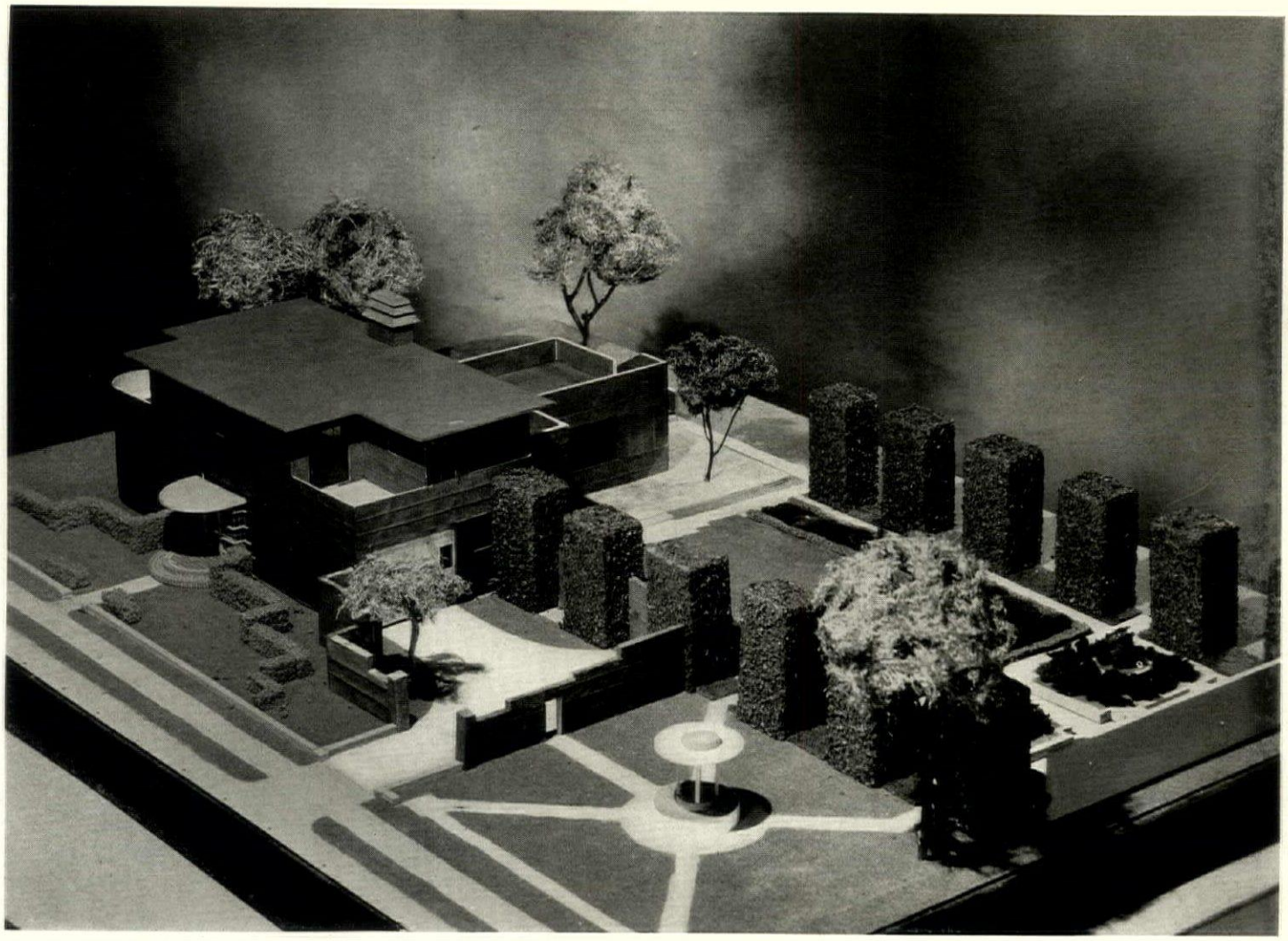


INDIVIDUAL HOUSE

LEONARD SCHULTZE, ARCHITECT



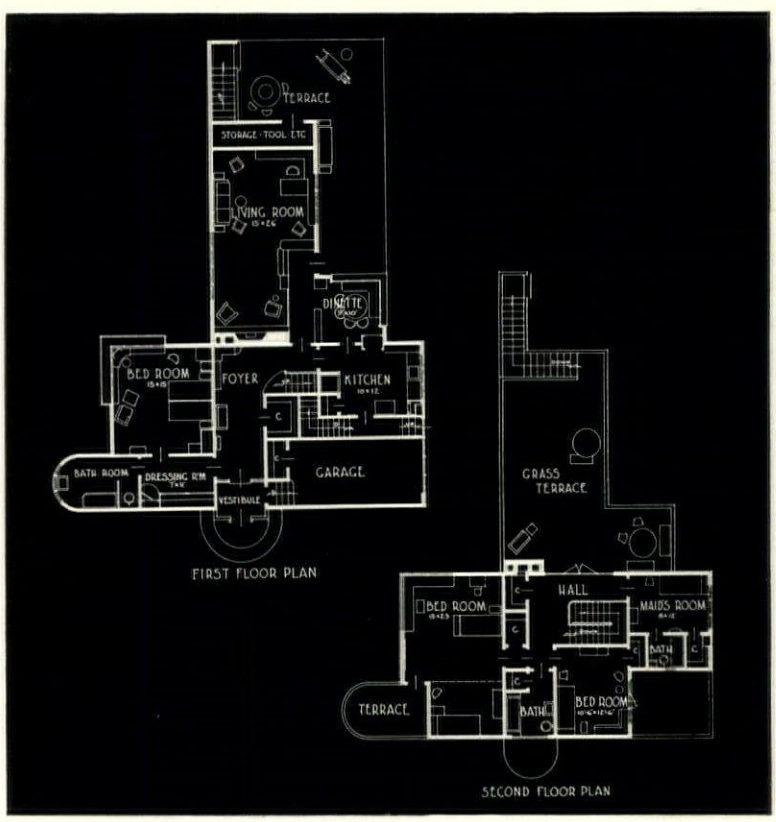
It is occasionally forgotten in the scramble to get aboard the bandwagon of socialization that the majority of us still retain a desire to live as individuals, in a manner which suits our habits and in surroundings which suit our tastes. In this house there is no attempt at standardization. It is a home for a family and not a coop to house the goings and comings of some fancied automatons. I have chosen to design a house that actually sprang from its plan, and yet which has a traditional atmosphere. . . . The basement is built of stone, the first and second floors of common brick and the roof of slate. The exterior of the house is to be painted white; trim will be a shade of blue, and ironwork black. The walls are to be furred and the interior finish throughout will be of the simplest possible character so as to permit the utilization of either old or semimodern types of interior furnishings. . . . In most suburban small lots the proximity of neighboring houses makes privacy in either rooms, porches or terraces almost impossible. The angled plan and the arrangement of the terrace give almost complete freedom of observation from the neighbors and provide a comfortable outdoor space. Attic space is available for storage and is reached by a folding staircase in the hall. The house is intended to be heated by oil and every modern convenience should naturally be included, such as electric refrigerator, incinerator, washing machine, mechanical dishwasher, electric vacuum cleaner, etc.



NEXT YEAR'S HOUSE

WILLIAM VAN ALEN, ARCHITECT

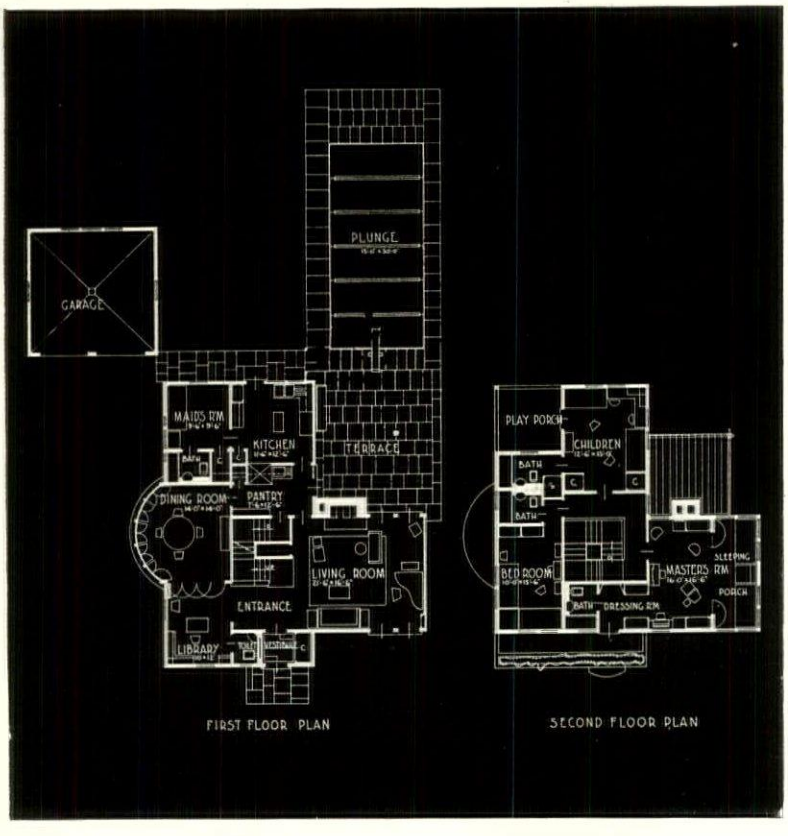
This house is fireproof, waterproof and verminproof. It is as completely insulated as a broadcasting studio, and it is cheap to keep up. All this was achieved by the simple expedient of wrapping the house in copper! . . . The living room has been planned with the idea of creating different groupings for the family and guests, one around the fireplace, another around the sofa and a third formed by built-in bookshelves. The dinette is centrally located. The kitchen has a sink and drainboard in close connection with a cupboard of the same height so that the dishes are cleaned, washed, dried and stored in one continuous operation. The garage, whose walls are lined with copper sheets, has a ceiling of structural glass providing an exceptionally well-lighted room for cleaning and repairing the car. An oil burner heats this house. An automatically controlled air conditioning plant supplies cool air in summer and heated air in winter. The plan pays particular attention to the question of privacy, separating the parents' bedroom from that of the children. Children should be educated as soon as possible to become independent individuals fulfilling their duties. In the case of a baby and a nurse, the bed corner is provided with a post on each side for a drape, making a separate room or nook. An upstairs roof terrace has a real grass lawn, sheltered by awnings with groups of beach chairs and tables. An outside stairway connects the terrace with the garden



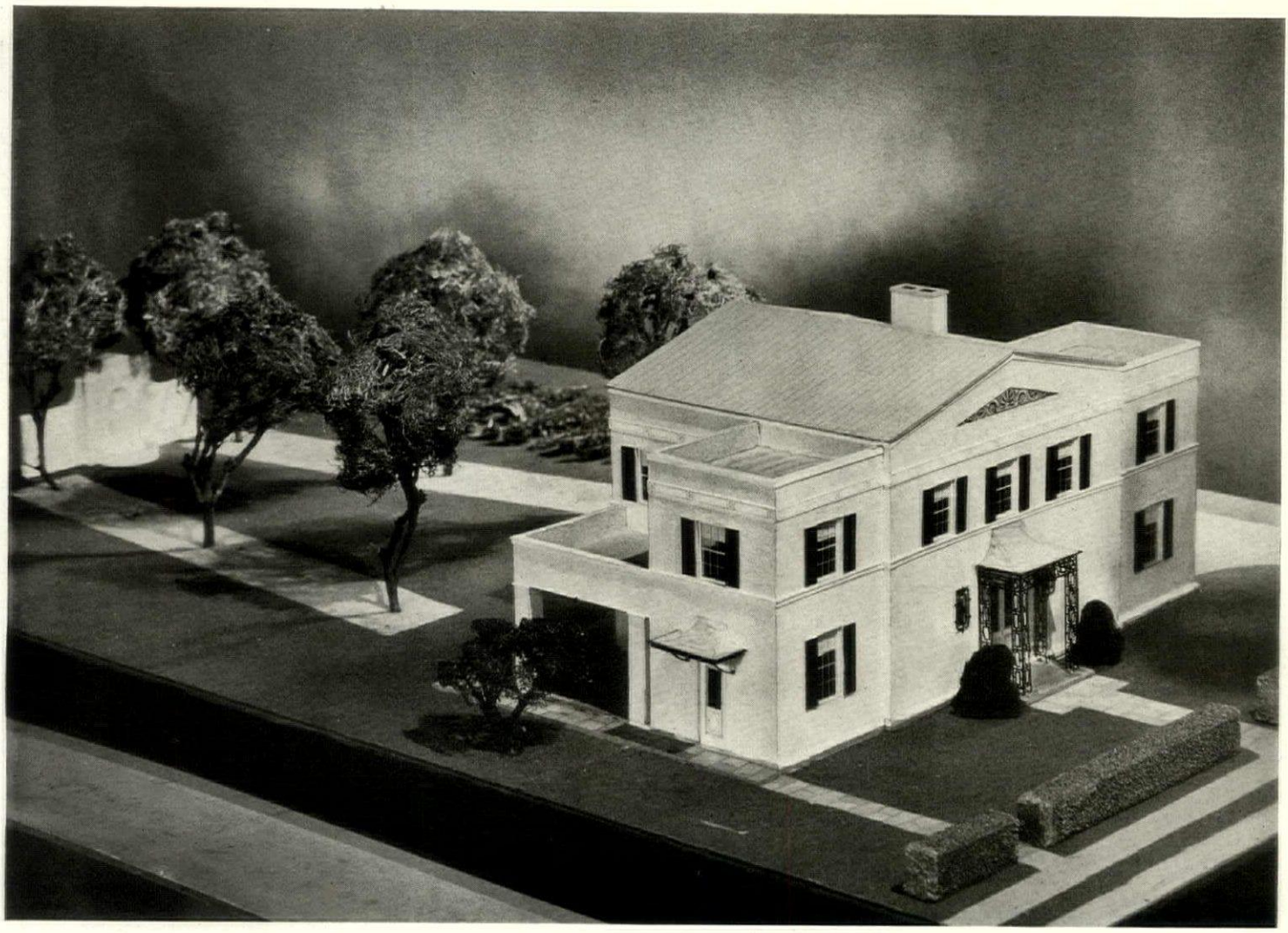


HOSPITALITY HOUSE

RALPH T. WALKER, ARCHITECT



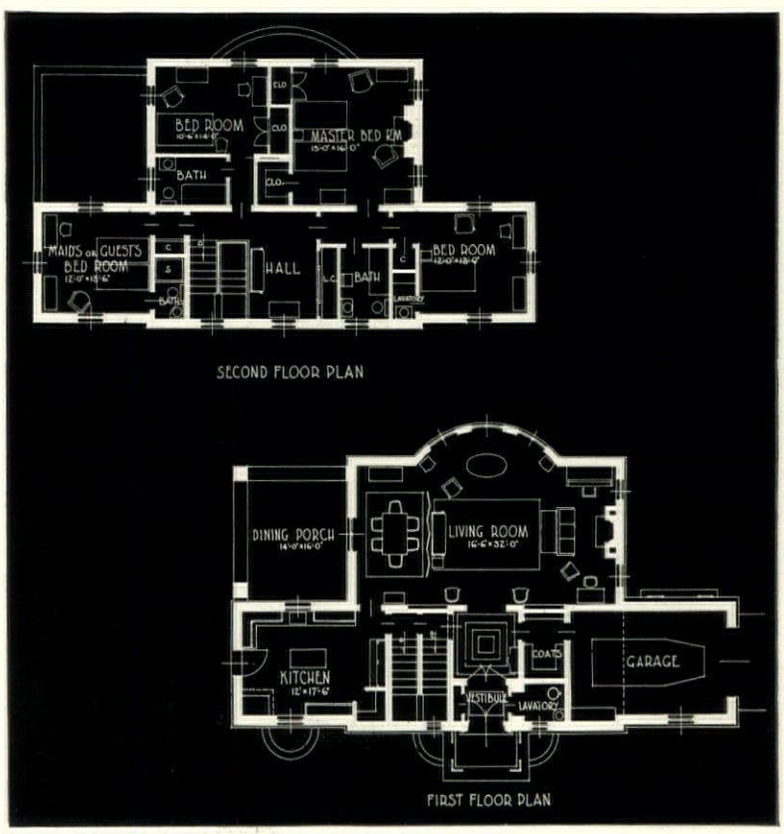
The problem of the house is to give direction to a desired way of living with an increased leisure, to the quality of the manners that go to make up that way of living, to the type of space for it to move in, and finally to the mechanics of it, so that the work within is reduced to a minimum. No attempt has been made to make this house a standard. It is designed to be built of wood inside and out, upon a wood frame with a metal leaf insulation. New glues and paints have made wood the most flexible of materials, impervious to moisture. The walls and ceilings throughout are of plywood panels. Wherever painted, the paint will be of a synthetic resin type. The roof is of the same material veneered with copper. The floors are covered with wood and in some places, such as the kitchen and baths, with linoleum. Hospitality is a natural result of more leisure, and hospitality means a house that can be used for the private purposes of a family and one also that expands itself to take care of the friends of the family. The rooms of this house are so arranged that each has a function of its own. All modern houses in these days are, if anything, supposed to be functional, and can be opened up to permit entertaining. There should be nothing tricky about the mechanical aids in such a house. They should be serviceable and inconspicuous. Too many gadgets termed "labor saving" merely transfer the time of labor



GARDEN HOUSE

LAWRENCE G. WHITE, ARCHITECT

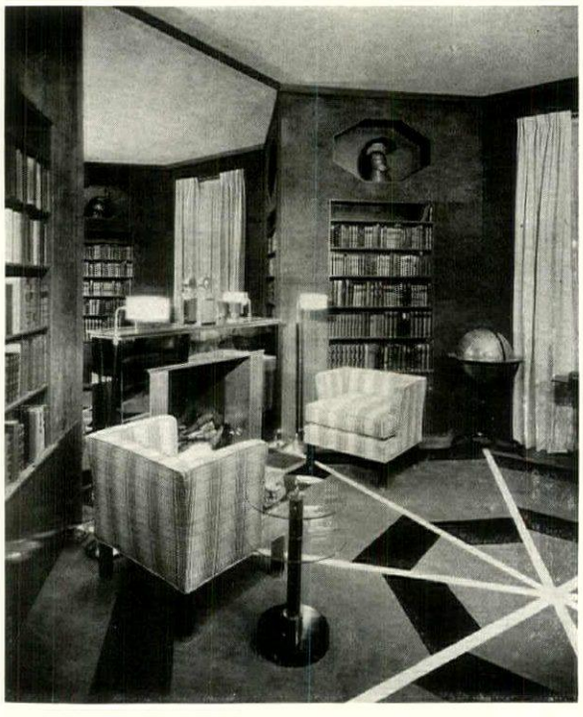
A house to be modern need not forsake the traditional ideal. There is a classic simplicity about the Georgian period that reminds one forcibly of the architecture of today, in that both periods gave superfluous embellishment a wide berth. The house is constructed of common brick, whitewashed. It would be equally effective and much less expensive if executed in matched boards. The sloping roof is of lead-covered copper, the flat roofs of plastic slate with insulation against heat transfer. The deck of the sleeping porch is concrete. . . . The single large living room has its bay window facing south on the garden. A large decorative screen separates the dining portion from the rest of the room, allowing the use of the entire room for entertaining when so desired. The kitchen door opens and shuts automatically for serving. All interior trim is of satin finished bakelite which eliminates the necessity of paint. All of the wall bases are coved. A gas or oil-burning boiler supplies not only hot water all year round, but combines the functions of general heating in the winter through a hot water system, with cooling in the summer, pumping chilled water through the radiators. The windows of the bedroom are arranged with sliding pockets to allow two-third full opening; those on the east and west sides are glazed with violet ray glass. Wire-mesh roll screens are used throughout. The bedroom doors are provided with soundproof cushions



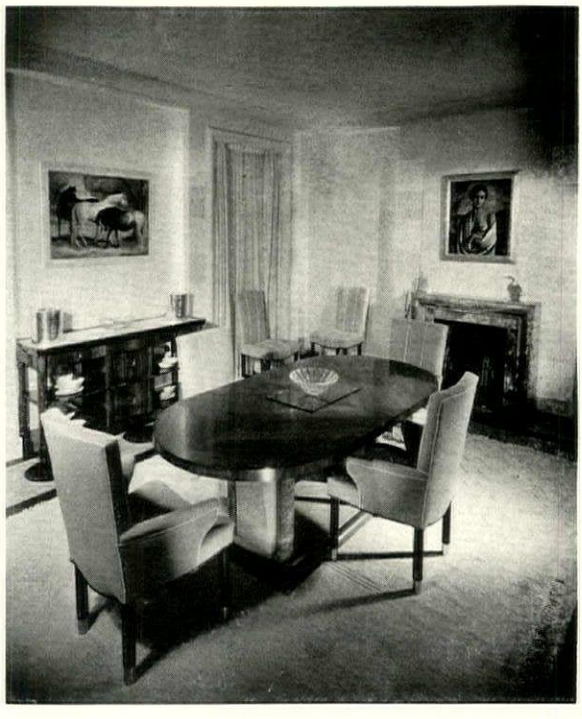


Gould Studios Photos

Living Room in "Modern House"

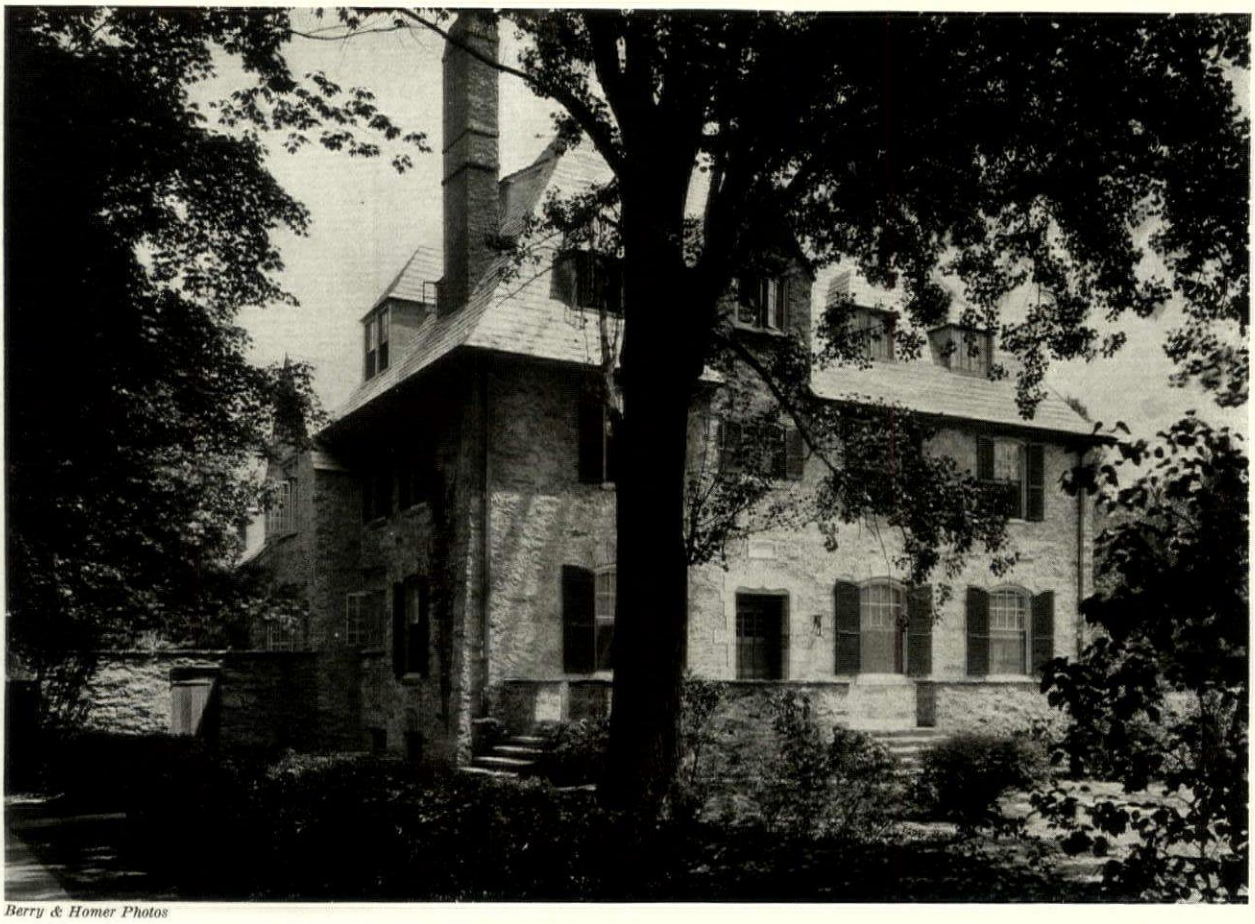


Library in "Penthouse"



Dining Room in "Penthouse"

THREE ROOMS DECORATED BY R. H. MACY & CO., INC., FOR THE FORWARD HOUSE EXPOSITION



Berry & Homer Photos

Fully representative of Philadelphian taste of 1890, this house has been transformed by an over-all covering of mortar and the elimination of as many inharmonious lines as possible. The street front has been slightly extended and a stone addition has replaced the shingled structure at the rear

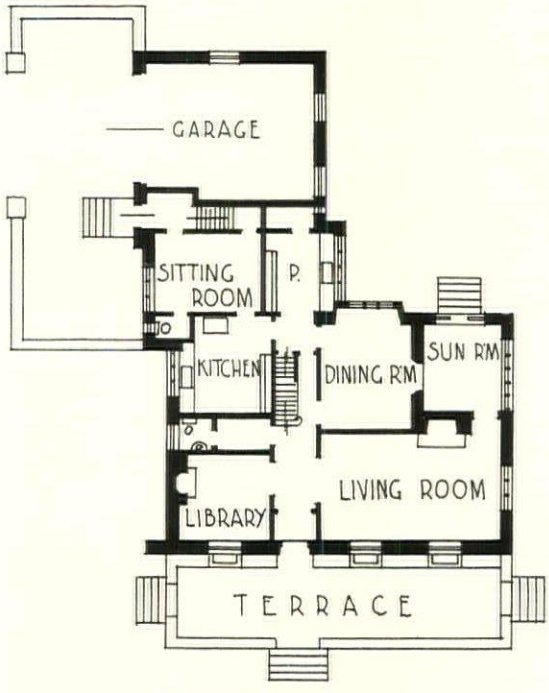


REMODELED RECTORY FOR ST. MARTIN'S CHURCH, CHESTNUT HILL, PA.

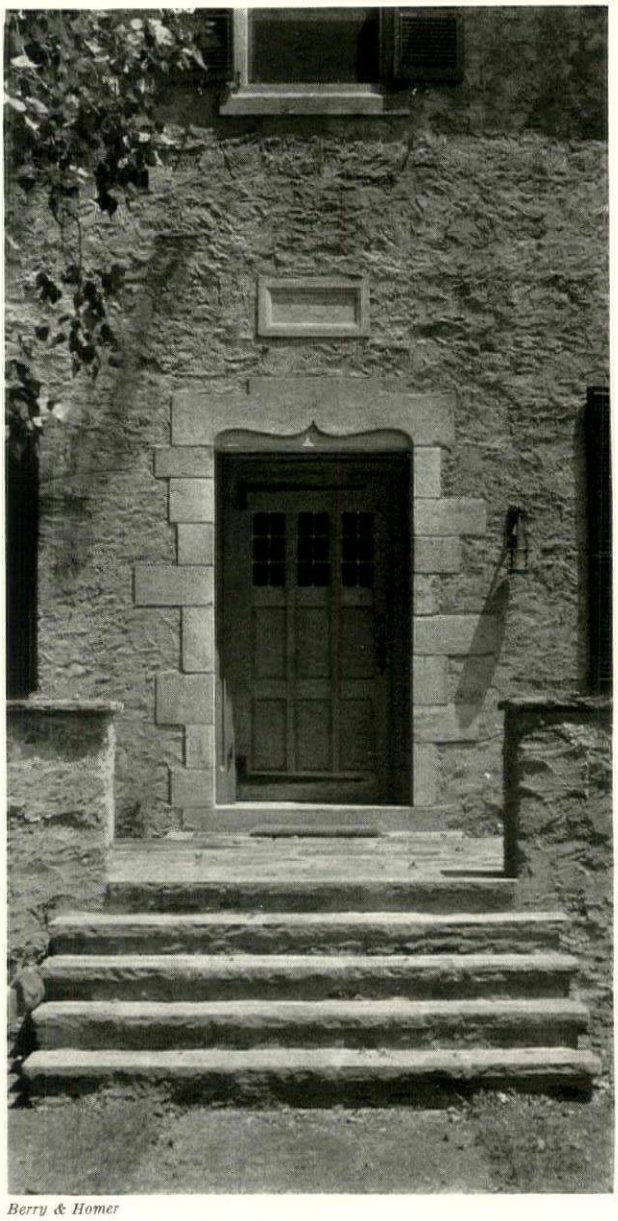
H. LOUIS DUHRING, ARCHITECT



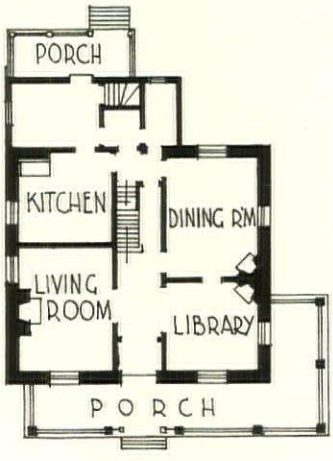
SECOND FLOOR AFTER



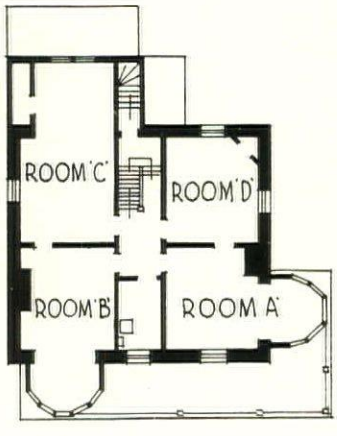
FIRST FLOOR AFTER



Berry & Homer



FIRST FLOOR BEFORE



SECOND FLOOR BEFORE

The plan of St. Martin's rectory, H. Louis Duhring, architect, has been modernized with as little alteration to the general structure as possible. Easier and more logical circulation, and greater use of space are the result



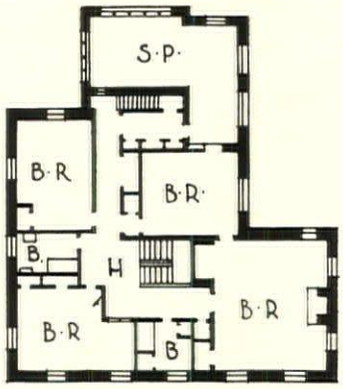
Berry & Homer Photos

With only the native stone remaining to tell that it is the same building, this house has been enlarged, replanned and redesigned. The gambrel roof, bay windows, and heavy trim gave way to a simple Pennsylvania Colonial design. The addition consisted of a 14-foot extension on the street front

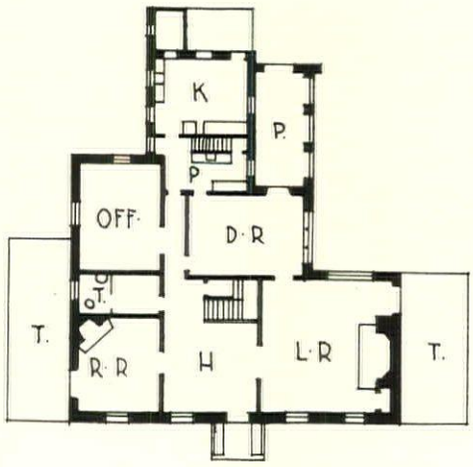


REMODELED RESIDENCE OF CLARENCE J. GAMBLE, CHESTNUT HILL, PA.

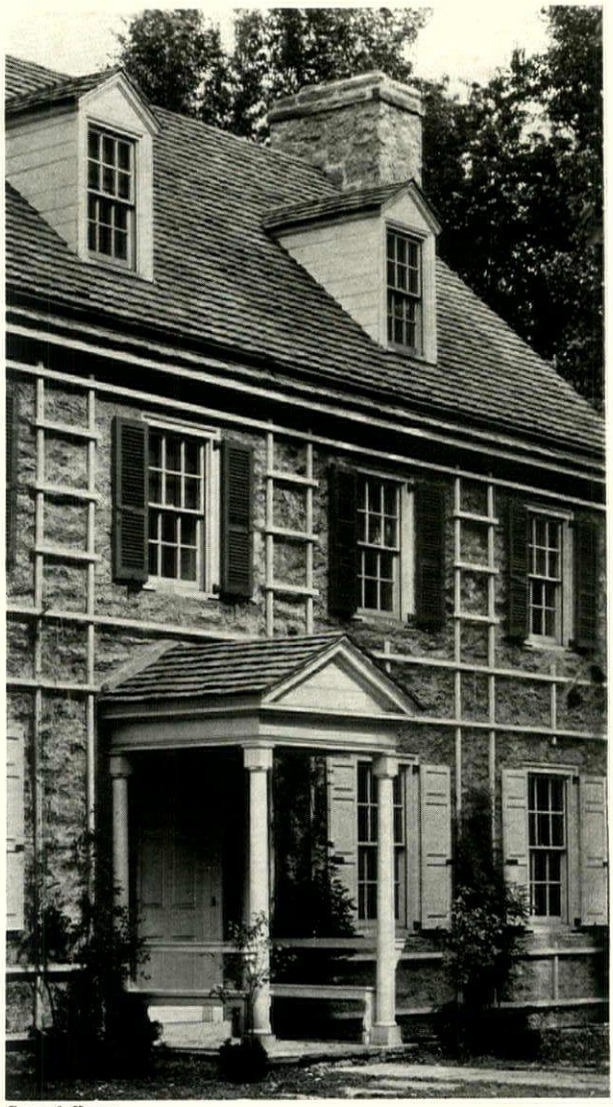
H. LOUIS DUHRING, ARCHITECT



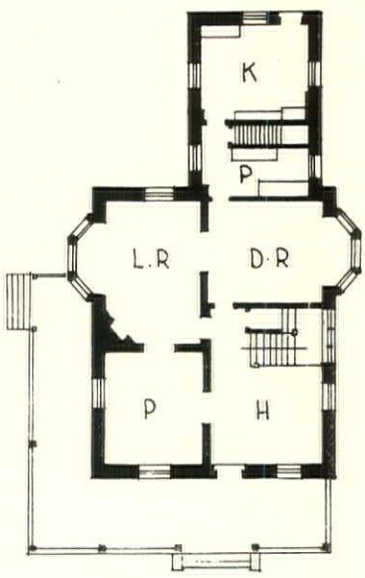
SECOND FLOOR AFTER



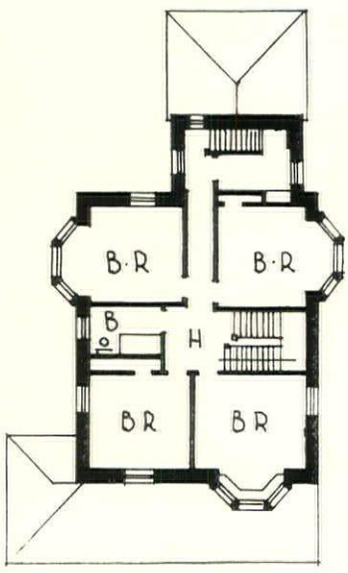
FIRST FLOOR AFTER



Berry & Homer

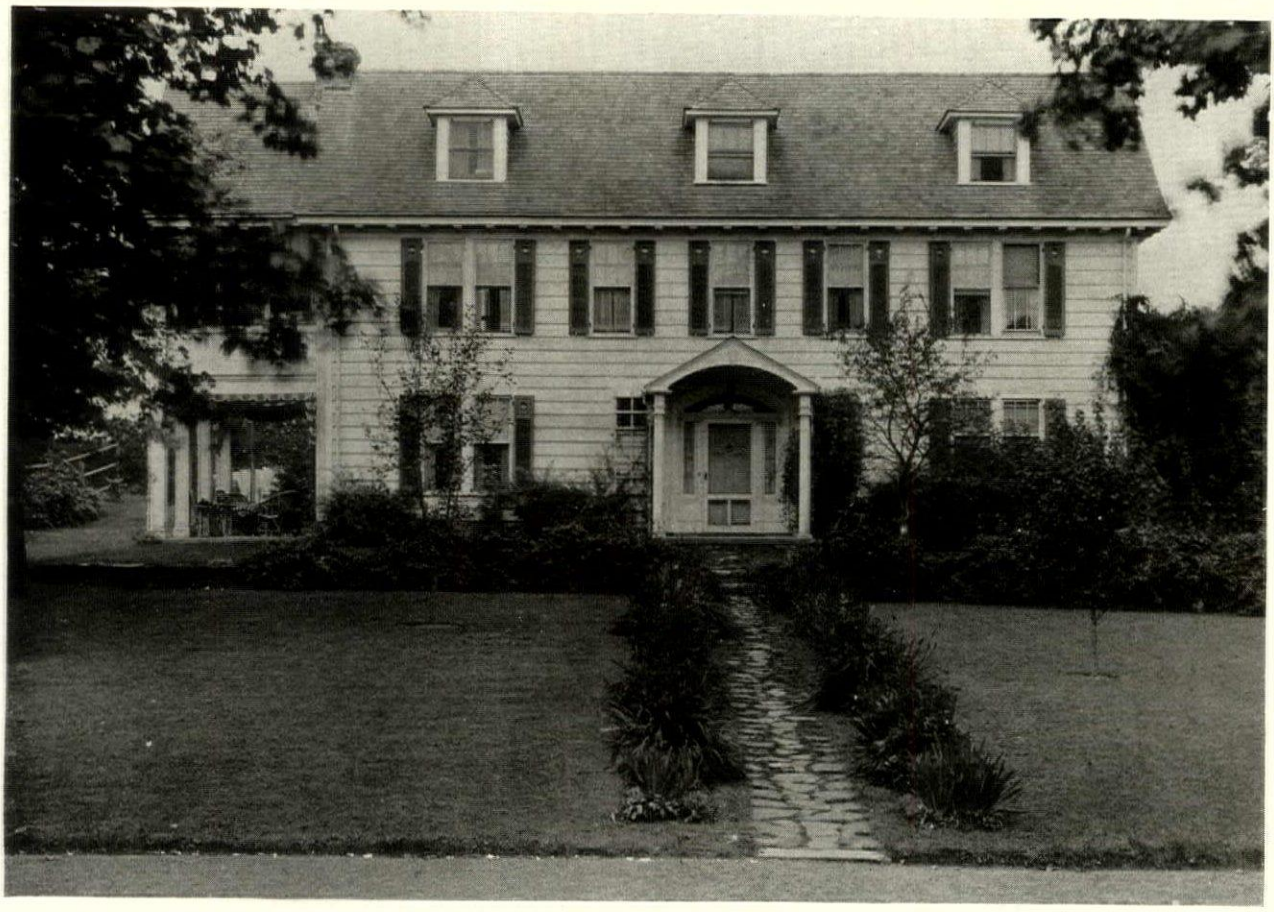


FIRST FLOOR BEFORE



SECOND FLOOR BEFORE

In remodeling the house for Dr. Clarence J. Gamble, the architect, H. Louis Duhring, retained much of the original plan, simply adding new living quarters and converting the old living space into a professional suite

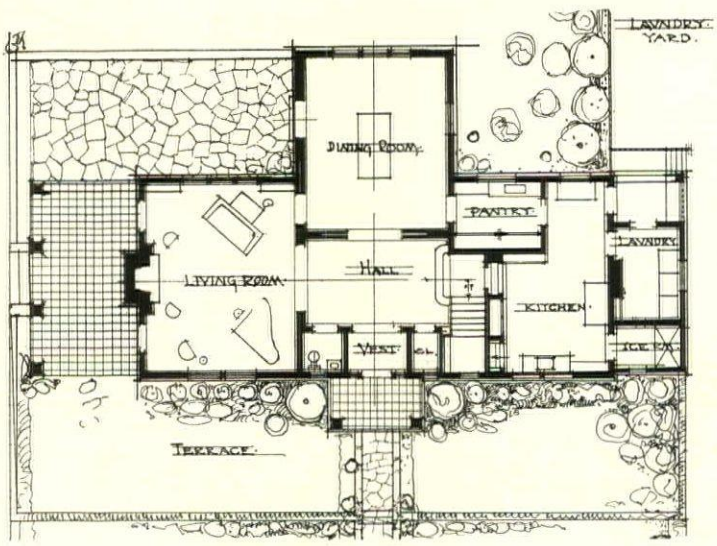


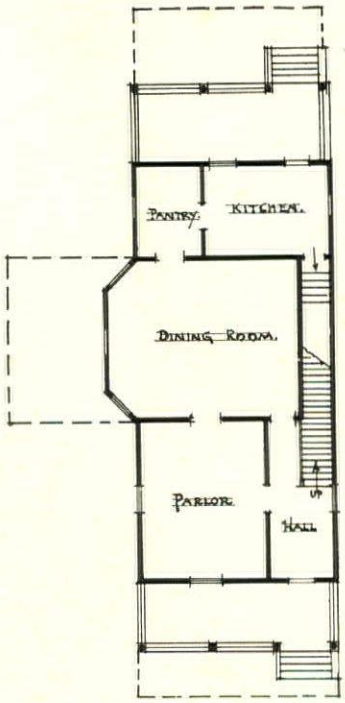


Preserving the original roof-lines but re-orienting the house to face another street was the scheme adopted in converting this nondescript house into a modern, livable Colonial residence. A living porch replaces the entrance porch, and the fenestration has been altered to obtain unity and order

REMODELED RESIDENCE, PORT CHESTER, N. Y.

EMILIO LEVY, ARCHITECT





The ground floor plan, above, as compared with the old ground floor plan, right, illustrates the character of the change in this remodeled residence in Port Chester, N. Y., Emilio Levy, architect. It is structurally similar but the entrance faces another street

INTERNATIONAL SECTION

HOLLAND

With the publication of the Holland edition of the International Section, beginning on the opposite page, THE ARCHITECTURAL FORUM marks the fifth in its series of portfolios devoted to European architecture. Inaugurated in December of last year with a representation of Austrian architecture, The Forum has presented in alternate months sections devoted to Austria, Germany, France, Italy, and now Holland. In the publication of the material, the magazine adopted and will continue an unusual publishing practice. Each of the sections is designed, edited, and printed abroad to convey the spirit as well as the architecture of each country.

THE ARCHITECTURAL FORUM

INTERNATIONAL SECTION

HOLLAND



C O N T E N T S

HARRY VAN ELTE
Synagogue in Amsterdam

W · M · DUDOK
School in Hilversum
School in Schuttersweg

H · B · BROEKHUIZEN
Open Air School, Arnhem

JAN WILS
Stadium in Amsterdam

BRINKMAN & VAN DER VLUGT
Factory in Rotterdam

JAN WILS
Automobile Sales Building

BRINKMAN & VAN DER VLUGT
Suburban Villa in Rotterdam

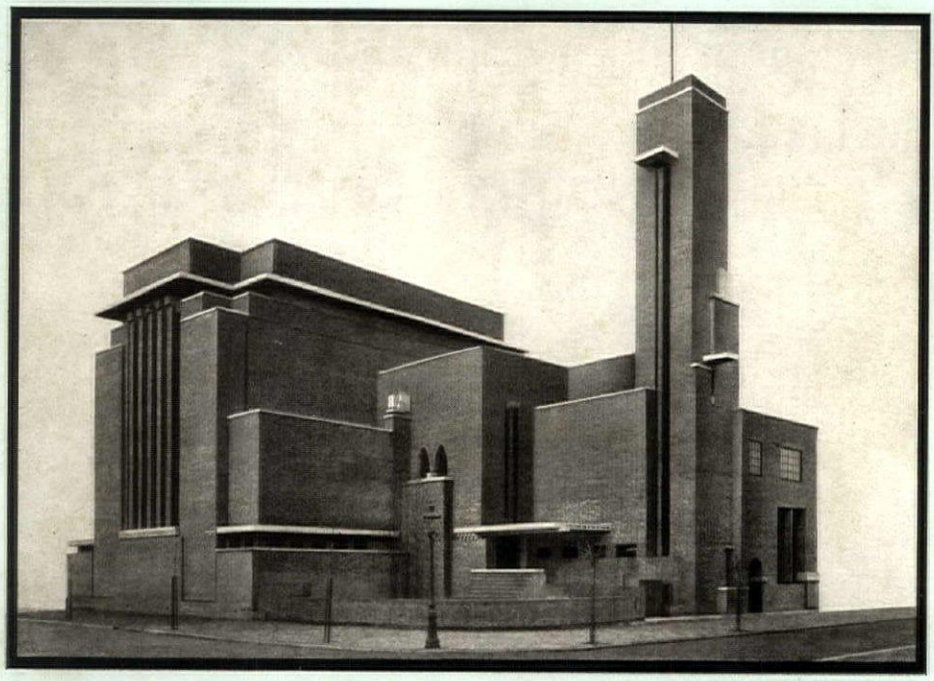
I · BOTERENBROOD
Garden City Nieuwendam

VORKINK & WORMSER
Thatched Cottage

Holland gives us the extremely precious example of a completely developed modern art of building. Here every important contemporary impulse has its representative — a proud claim, yes, but a just one. Even more vigorous than was the Netherlands Renaissance is this new flowering of architecture. A national synthesis of all the architectural tendencies of our day has gone to nourish it. Throughout a whole generation it has made unbroken and passionate statement of the spirit of the times. This may sound strange to you as you look through these pictures, for they seem to reproduce — at least at the first glance — such calm and balanced productions. Yet one must recognize that this art, behind its superficial calm and balance, mirrors the full spiritual struggles of a contradictory age. More deeply and more profoundly than any other architecture of Europe, that of Holland is inspired by these intimate contradictions, not contenting itself with bringing into accord a clear groundplan and well considered forms, but also defining sharply man and the machine, economic discipline and poetic freedom, stark realism and beauty of composition, rationalism and sentiment. The artist, pulled this way and that, is mastered by a culture common to all yet venerable in its traditions and uncompromising in its development.

HARRY VAN ELTE

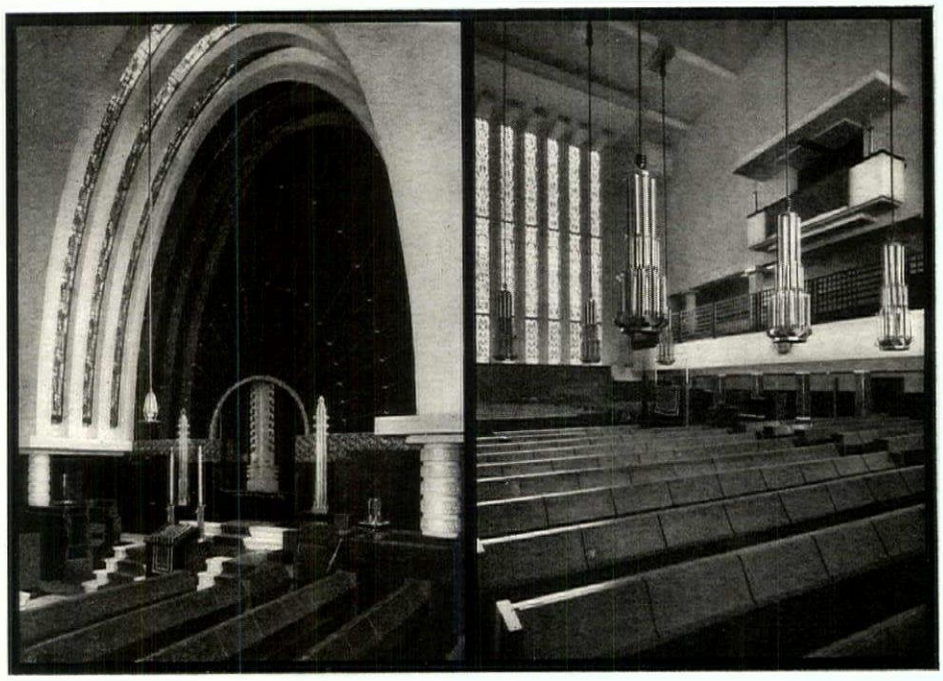
ARCHITECT



SYNAGOGUE IN AMSTERDAM



SPACIOUSNESS AND CRAFT



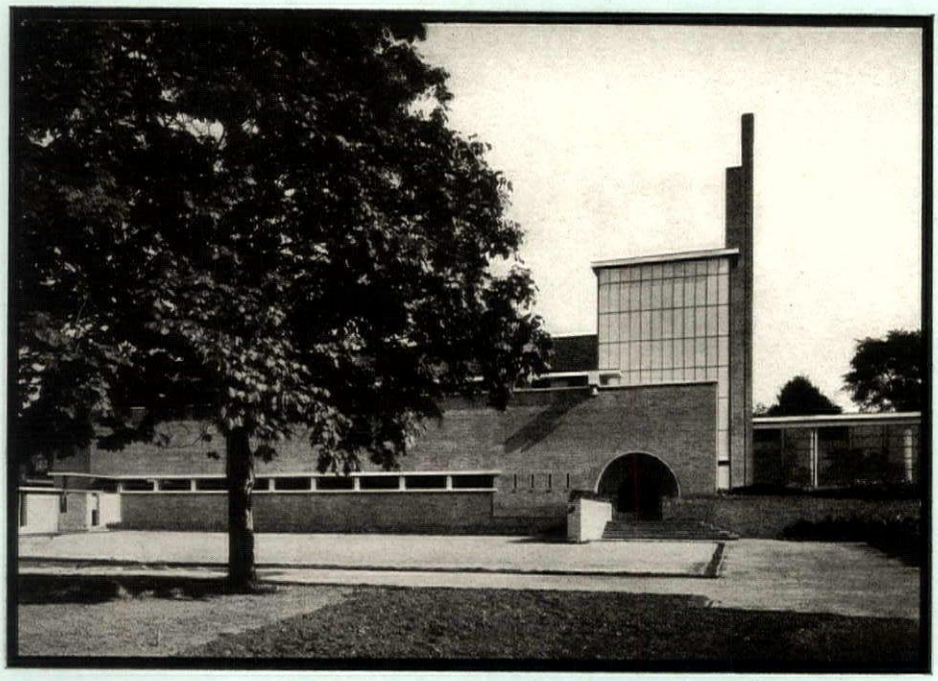
INTERIOR WITH CHUPA

Construction so crystal clear that the most indifferent passerby must appreciate the form and function of his building, materials so harmonious as to fit at once both their structural purpose and the necessities of their environment, simplicity so dignified as to give his concepts grandeur — these are the characteristics which Harry van Elte has brought to his synagogue in Amsterdam. It is a church chiseled from one block into well-apportioned masses, the whole conceived in three dimensional groupings rather than in separate ground-plans and elevations. By his white cornice he has given all the attributes of soaring weightlessness to his flat roof. By his use of brick he has obtained soft texture, almost a patina, for his walls. Extraneous ornament he shuns, yet his iron lattern and his iron gate fulfill impeccably the rôle he has imposed upon them.

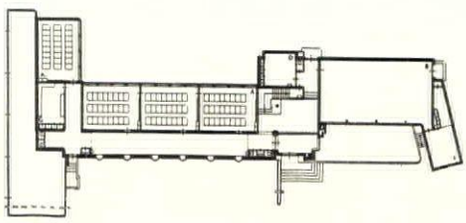
The proud simplicity sensed from without quite rules this synagogue interior. Chaste walls, smooth curving arches, and four-square balconies dominate it. The feeling for craftsmanship, given expression already in the wrought iron work beside the entrance, here comes to an apotheosis in benches, glass, and chandeliers. The three great straight lights which follow over the curve of the arch relieve it also of material weight and minimize its bulk as it towers above the Chupa.

W · M · DUDOK

ARCHITECT



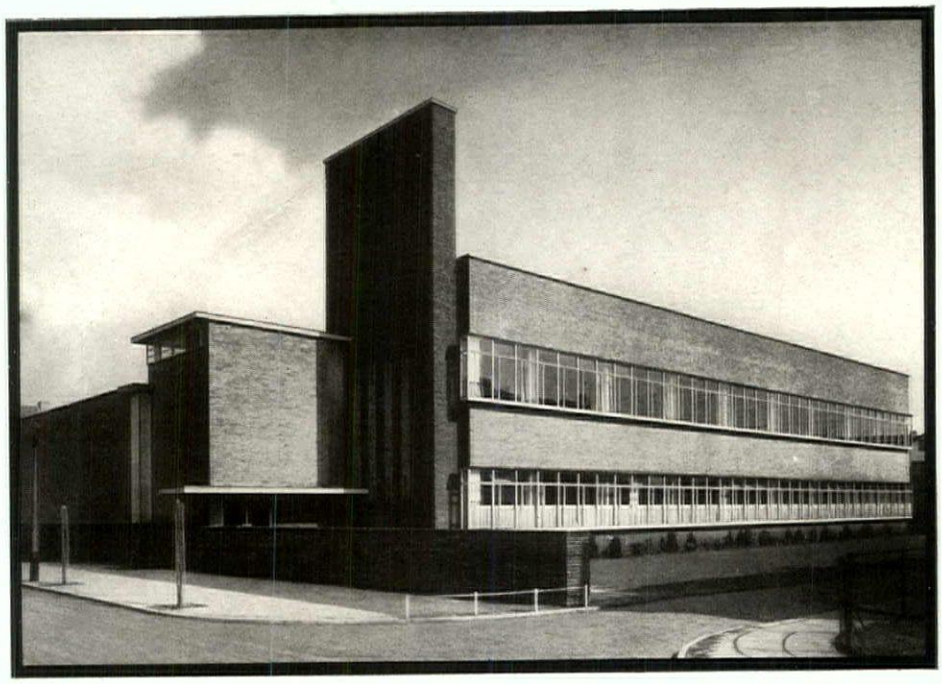
SCHOOL IN HILVERSUM



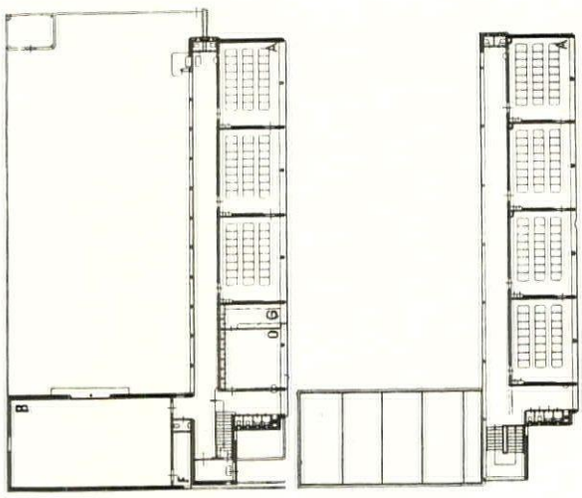
W. M. Dudok is a most representative member of the group once dominated by the great constructor H. P. Berlage. Berlage was more a master contractor than an architect, more a realist, more an engineer, more a craftsman. It follows that most of his successors have worked to introduce into the type of building he represented a something more personal. In his two schools at Hilversum and Schuttersweg Dudok has even been successful in imposing social theory upon bricks, glass, and steel. Using the same materials as Berlage, he shows the advance of his art by the skillful manipulation to which he subjects them. His results are not so pictorial as plastic. The arrangements into which he patterns his blank wall spaces and his lights produce a monumental impression which is highly pleasing, while serving at the same time every practical application of the modern educational principles to which, as functions in a school building, they should be subordinate.

W · M · DUDOK

ARCHITECT



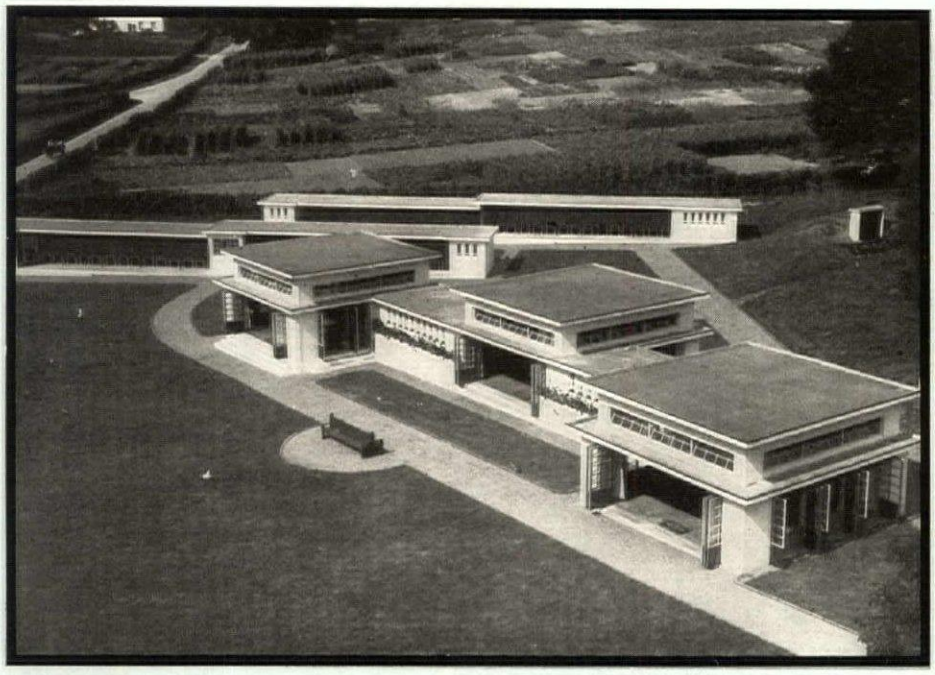
SCHOOL IN SCHUTTERSWEG



A. Class room. B. Gymnasium. D. Principal. F. Store room. G. Educational appliances.

H · B · VAN BROEKHUIZEN

ARCHITECT



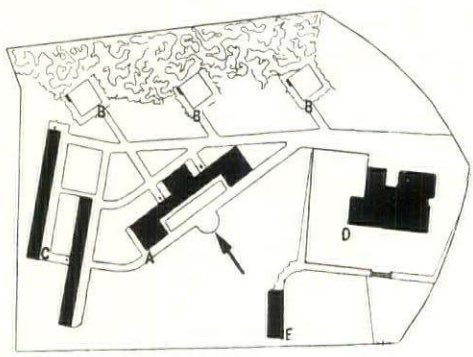
OPEN AIR SCHOOL

No country lends itself more gracefully than Holland to the open air class room, the open air dormitory, and all the other adjuncts of the open air school. Low, flat expanses of terrain, setting at once the *motif* for sun-terraces and roofs, stretch out to every side and demand long, widely spread structures which hug the earth closely and conform to it in outline. Sunlight plays best upon the horizontal, and architect H. B. van Broekhuizen deploys his open air establishment in horizontal lines. The children of his classrooms must breathe in sunlight and the freedom of far horizons as naturally as do the tulips waving in the gardens. They must have an immediate contact with the fields, an immediate escape from the unavoidable restraints of the class room. The architect has emphasized this contact and this escape by refusing to place other barriers than the utterly essential roof supports round about those portions of his building where the children congregate.

SCHOOL DESKS IN A WOOD



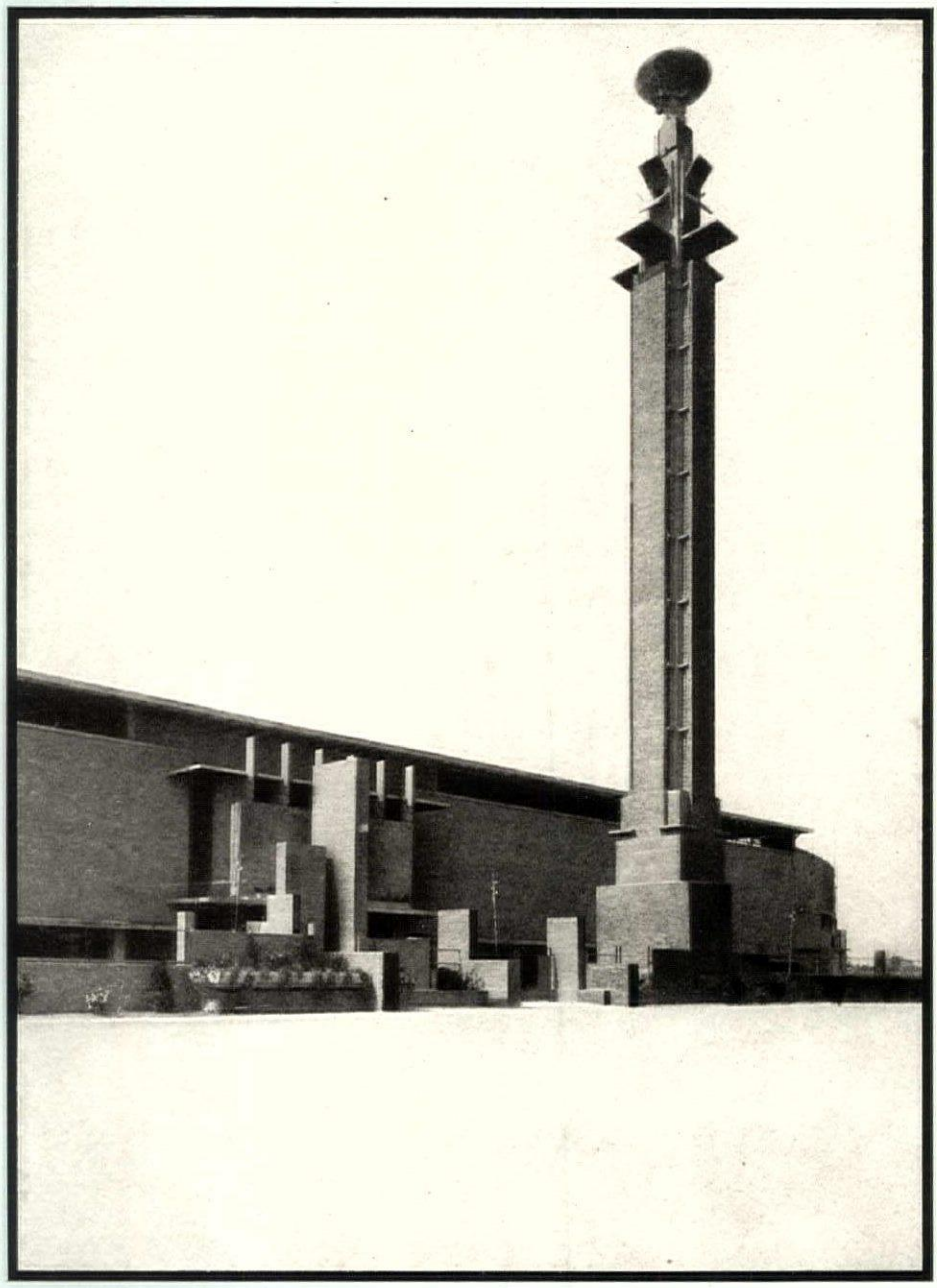
AN OUT-DOOR ROOM



A. Covered class-room. B. Open air class.
C. Open air shelter. D. Dormitory. E. Bicycles.

J A N W I L S

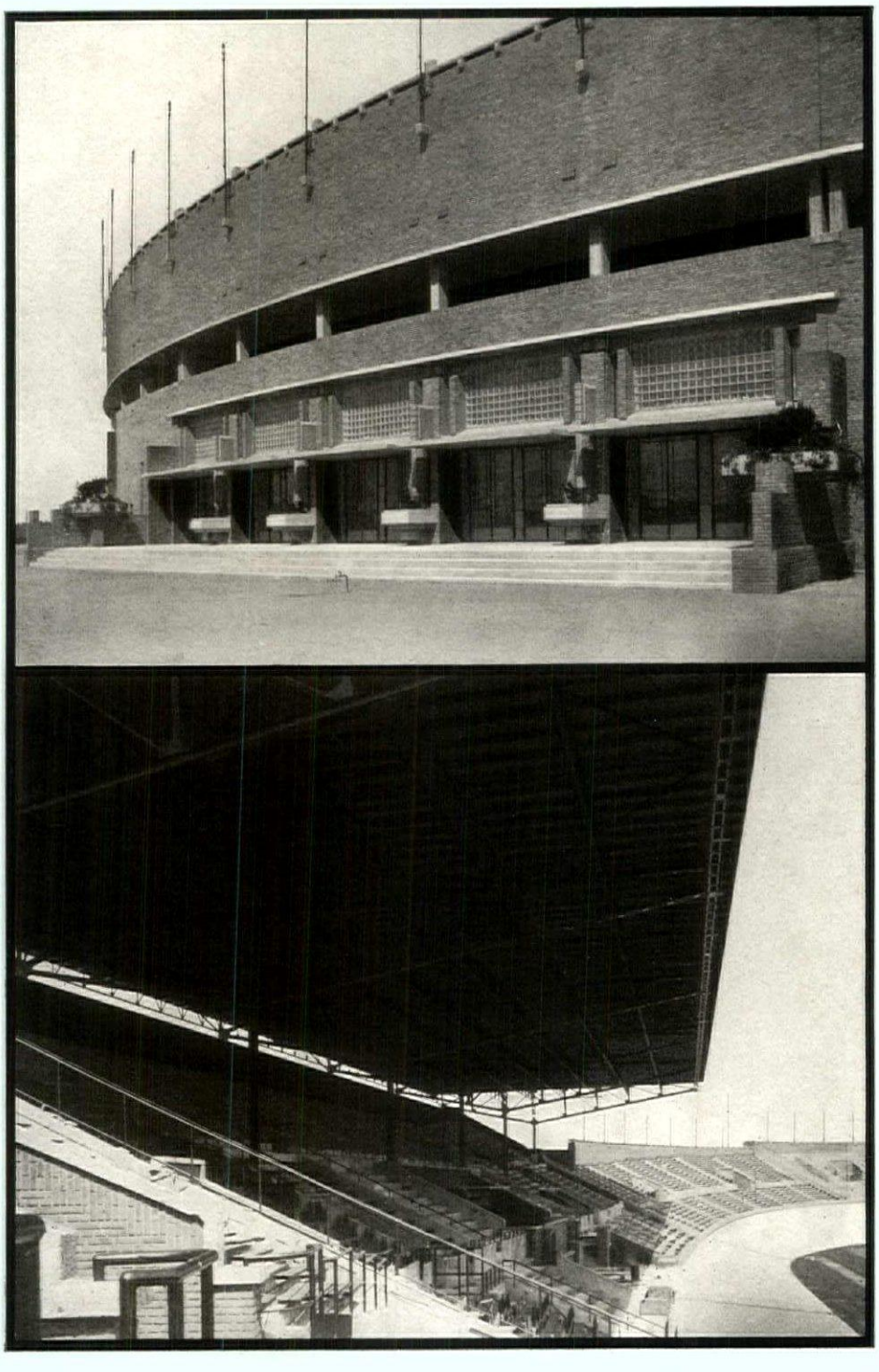
ARCHITECT



STADIUM IN AMSTERDAM

The engineer and the architect have seldom collaborated with happier results than in the Amsterdam stadium. That Jan Wils has maintained in well-balanced proportions the contributions of scientist and artist is seen in the curving outer wall, where lightness and a quite decided style are attained by his use of faced steel uprights and girders, bricks and glass.

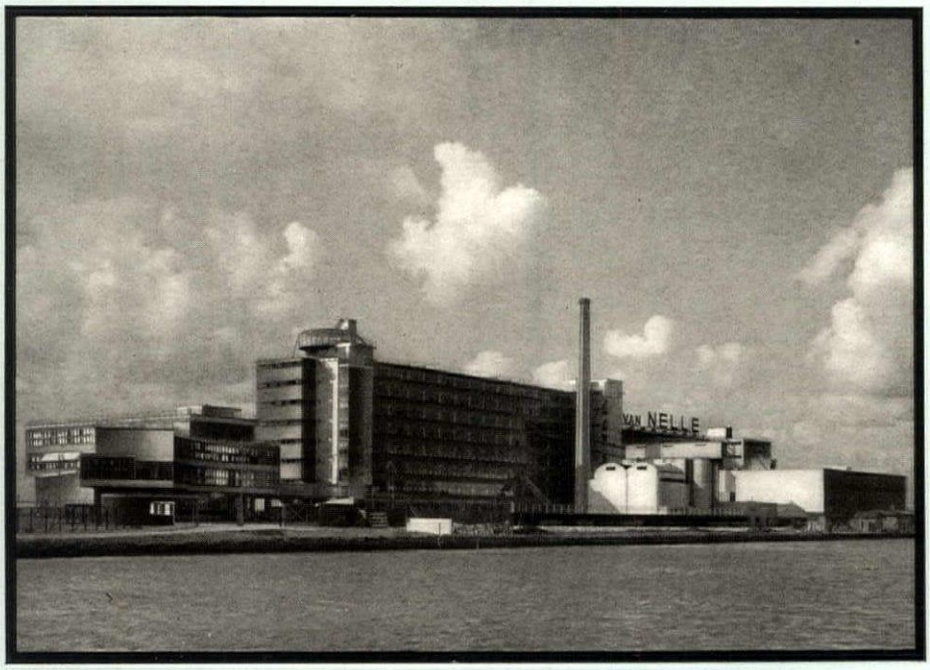
BRICKS UPON STEEL



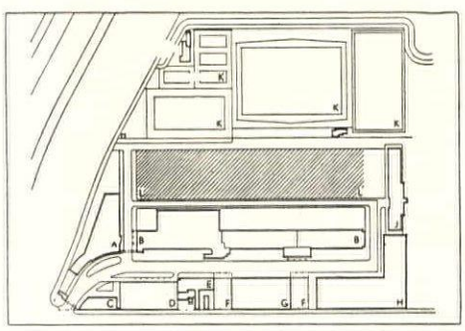
GRANDSTAND AND BLEACHERS

BRINKMAN & VAN DER VLUGT

ARCHITECTS

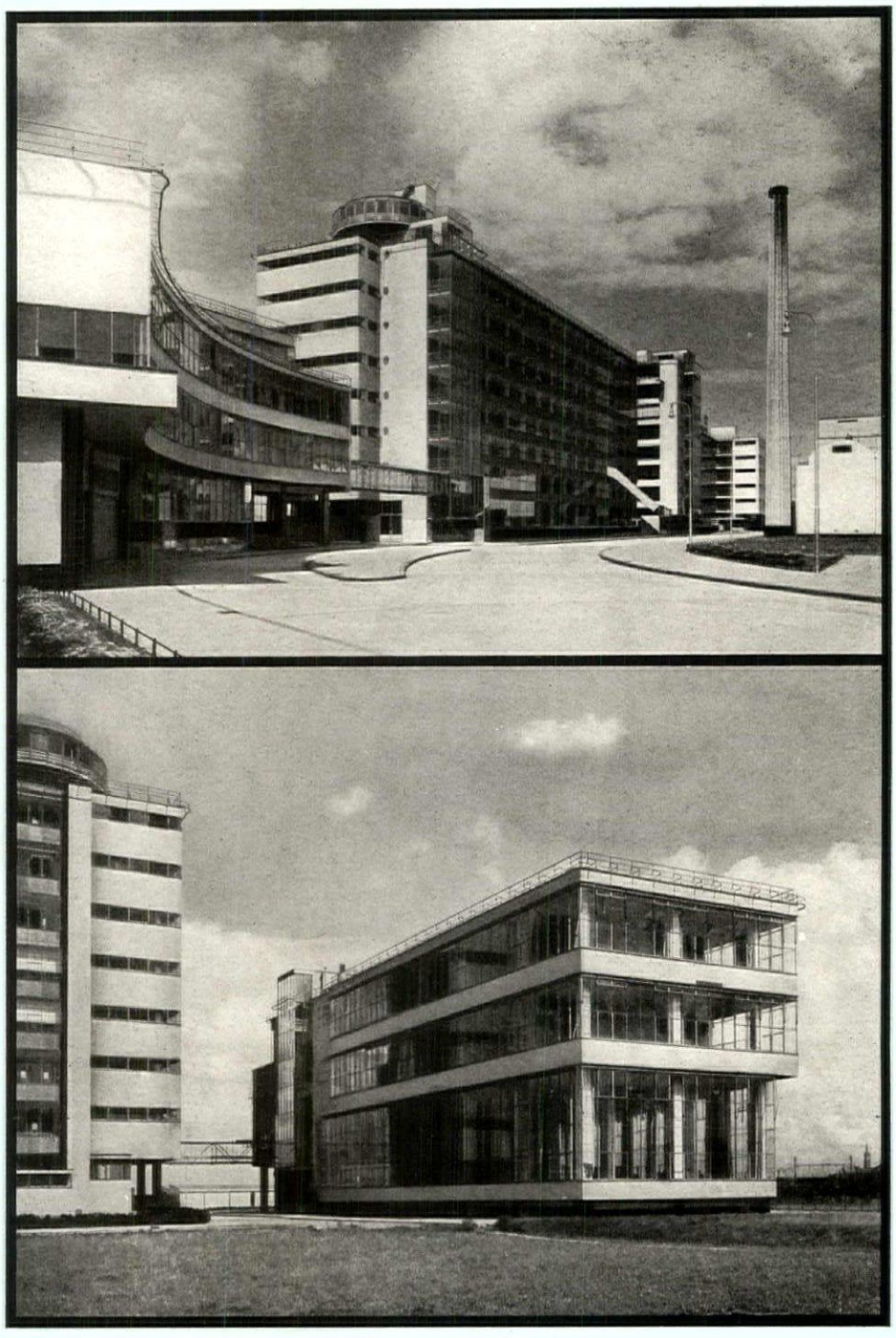


FACTORY VAN NELLE ROTTERDAM



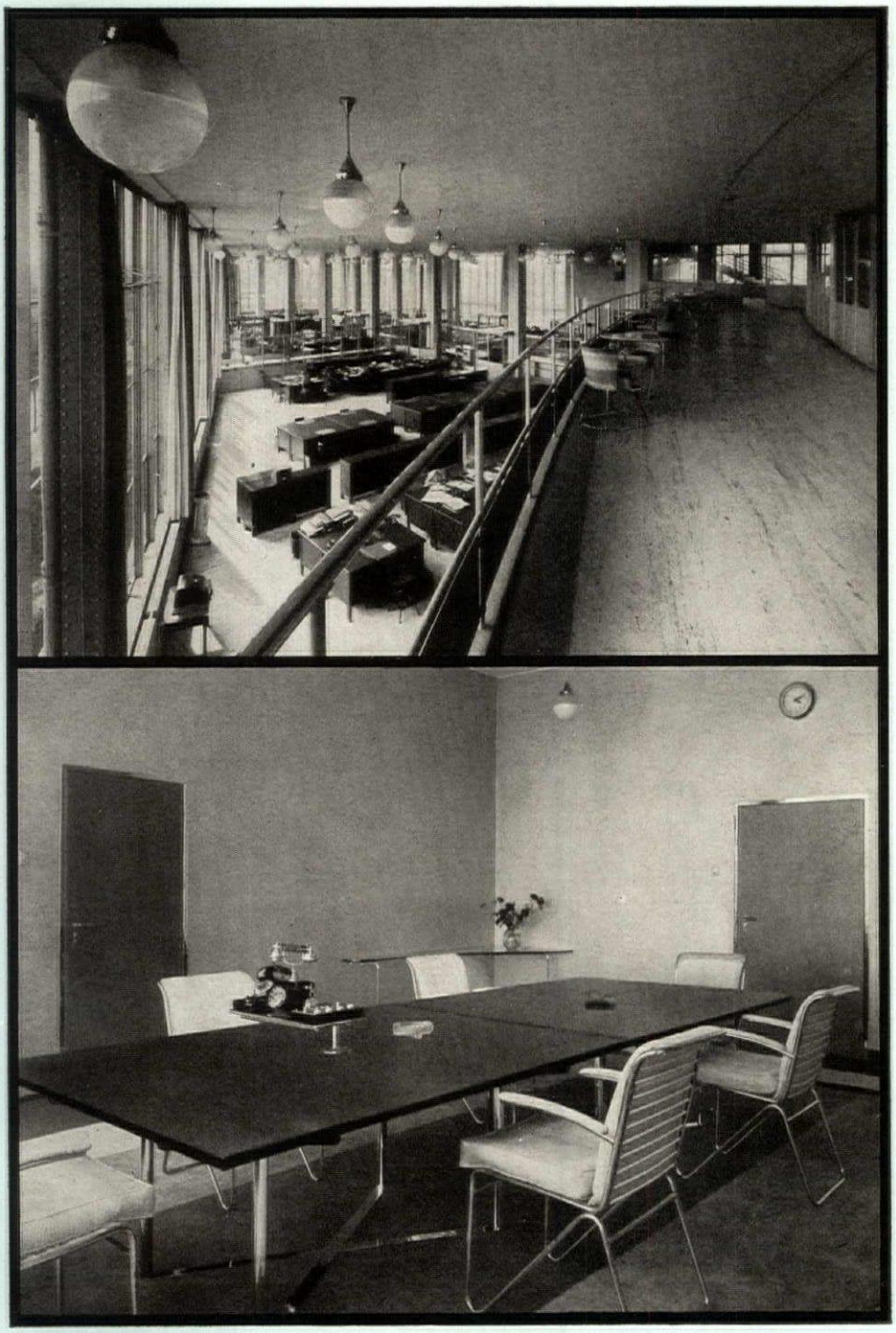
A. Office-building. B. Factory. C. Bicycles. D. Packing room and press room. E. Ware-house
G. Forwarding. H. Work-shops. J. Coffee-room. K. Playgrounds. L. Site for extension.

A SUNNY MODERN FACTORY



A factory without a single secret to conceal, its product sunlit and pure, its workers busy and happy in well lighted rooms, this is the ideal attained by the Rotterdam Van Nelle Works as constructed by Brinkman and Van der Vlugt.

WITH SUNNY MODERN ROOMS



Brinkman and Van der Vlugt have constructed their office block all in glass, one single great unobstructed room to every story. Ceilings and pillars are white, the floor blue. Modern furniture has been installed to suit a modern business.

J A N W I L S

ARCHITECT



AUTOMOBILE SALES BUILDING



Automobile show rooms need, more than any other structure built for commerce, to capture the spaciousness of the open road, the warmth of sunlight on the face, and the feeling of windy stretches and of movement. This automobile sales department has been housed in such a way that the show room dominates, as it should, the entire building, asserting itself as an expanse of glass which reaches up across the façade and as a central hall which fills the whole hollow core of the interior.

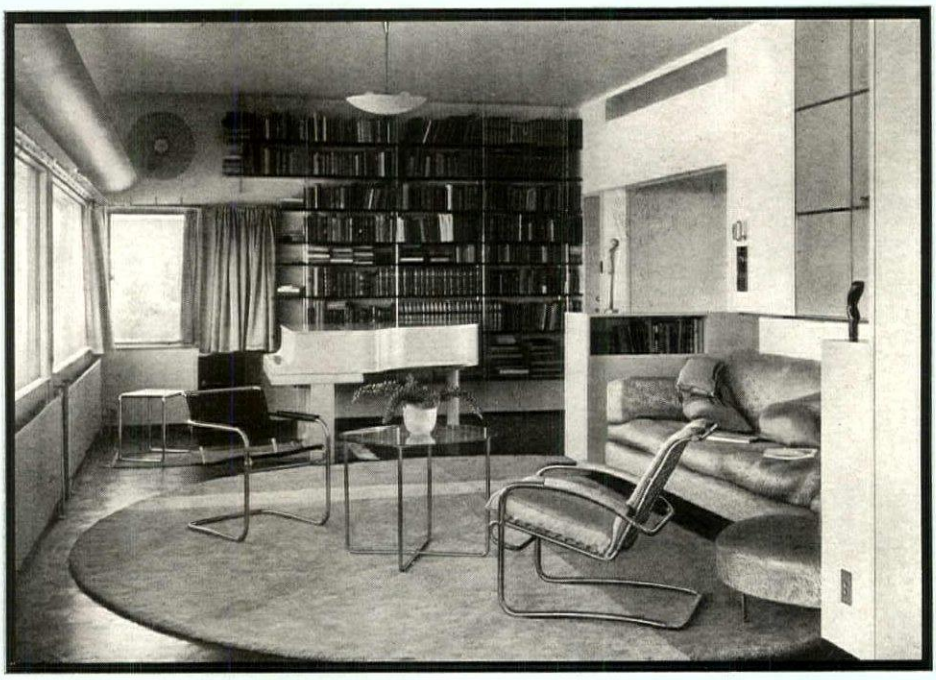
BRINKMAN & VAN DER VLUGT

ARCHITECTS

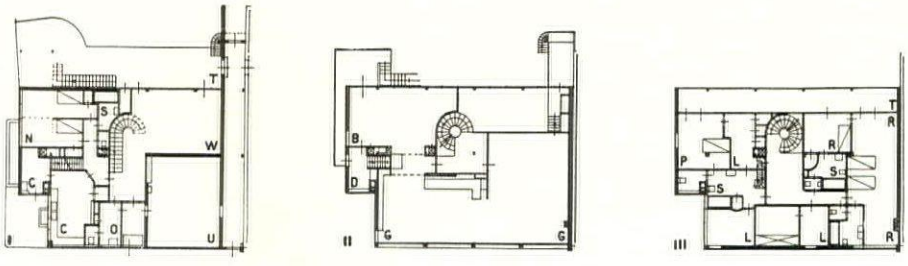


SUBURBAN VILLA IN ROTTERDAM

The Netherlands, where seems to converge all Western Europe, develops an international domestic architecture for the well-to-do merchant who must traffic with England, Belgium, Germany, and the distant Indies. His home reflects his up-to-date and cultivated taste, his impersonal modernity, his insistence upon dwellings built for health and sane living.



A LIVING ROOM FOR CULTURE



A. Living room. B. Dining room. C. Serving room. D. Servery. E. Store room. F. Boudoir. G. Smoking room and study. H. Nursery. J. Drawing-room. K. Studio. L. Room. M. Nurse. N. Servant. O. Ward-robe. P. Bedroom. R. Guestroom. S. Bath. T. Balcony. U. Garage. Z. Garret.

J. BOTERENBROOD

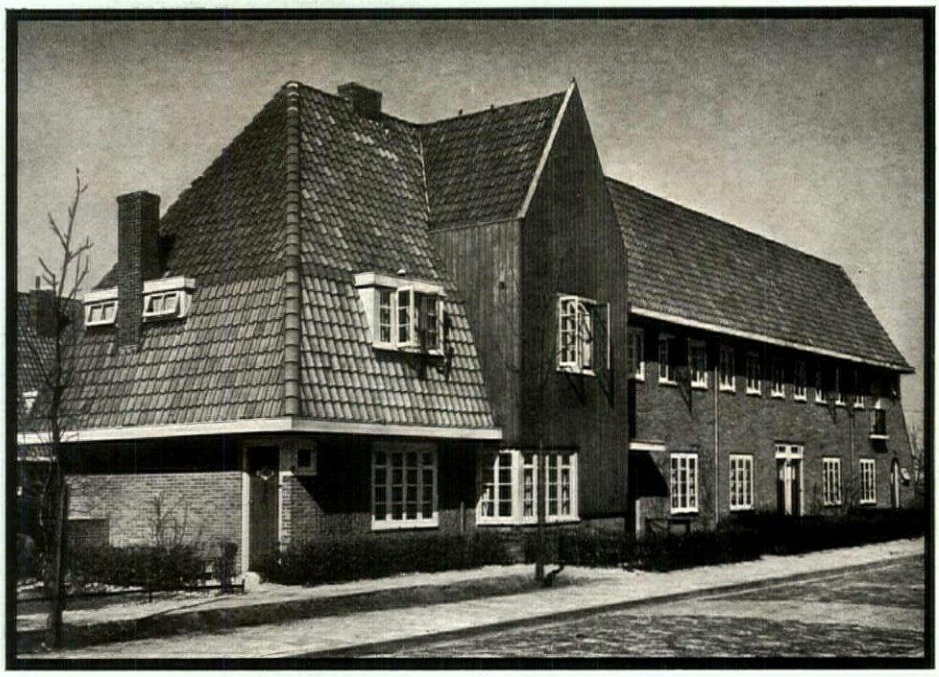
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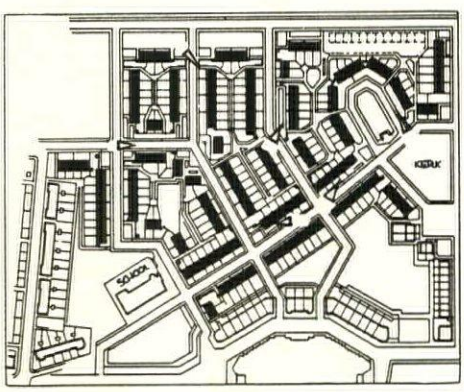
GARDEN CITY NIEUWENDAM

Beyond the suburban villas at the borders of large towns there are now rising throughout Holland model little garden cities, planned complete from church to kitchen vegetable plot and capturing in careful architects' drawings all that has been innate or accidental in Dutch peasant architecture throughout the centuries. Just as the suburban villa may present an impersonal and worldly elegance to the stranger, the homes of a garden city should captivate by their personality, their rustic charm, their happy air of rising indigenously from the soil. J. Boterenbrood has bound together his old Dutch houses, freshly built, into a typical *Siedlung,* and set them down like some historical group from Alba's time full in the free landscape. J. Boterenbrood has given his garden city at Nieuwendam especial charm by varying the type of home between old peasant cottages and rambling bungalows, diversifying his squat cubes and his steep triangular gables to achieve an effect of sponteniety, as if his little colony had sprung out of the fertile soil of Holland into an unpremeditated being.

A COTTAGE BLOCK



DIVERSIFYING PERSONALITY



Garden cities have long been the speciality of Holland. When architects approach the problem of creating such garden cities by prearrangement, the groundplan of the whole settlement is an essential feature, demanding correct apportionment of the lots left free to the actual building lots, and ample space for gardens as well as for the homes and for the roadways.



RKINK & WORMSER

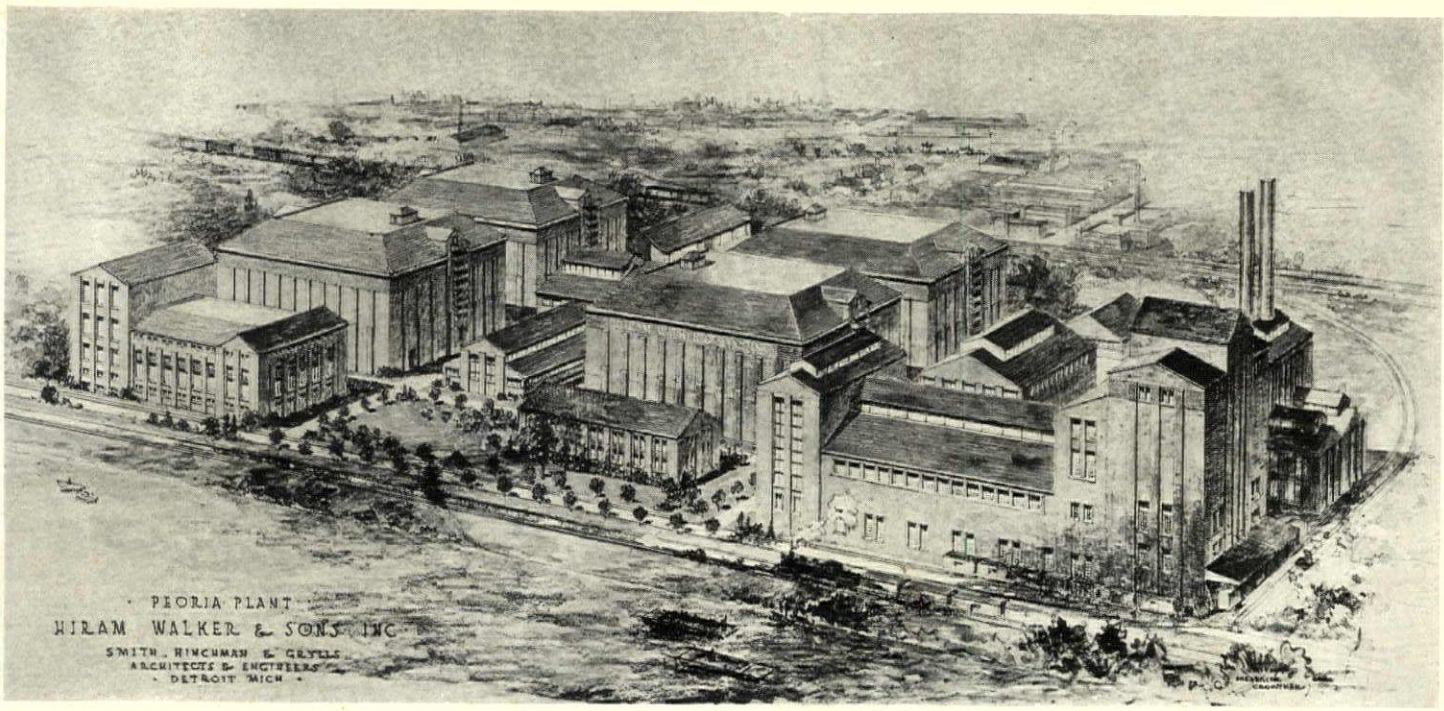
ARCHITECTS

THATCHED COTTAGE

COMPOSED AND ARRANGED



IN HOLLAND



DESIGNING THE DISTILLERY*

BY JOHN HANCOCK CALLENDER

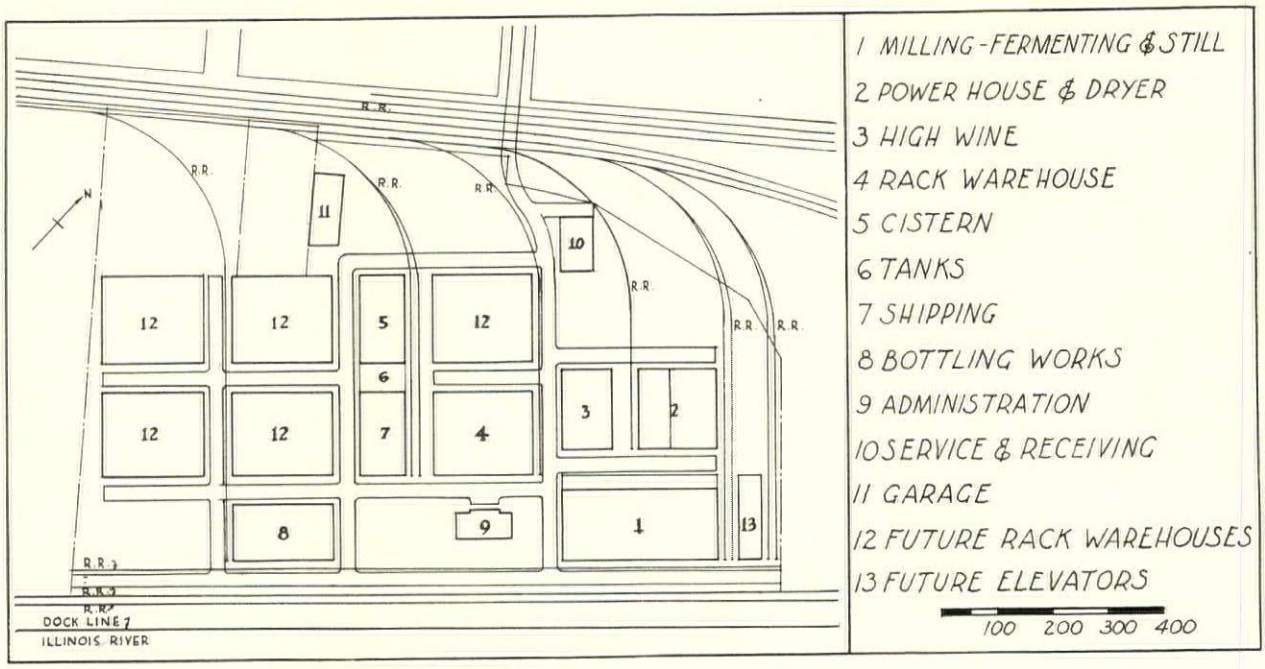
DECEMBER 6, 1933, it now seems certain, will mark the return of the liquor industry to legal respectability. The significance of this to the architect can be shown most clearly by a brief analysis of the conditions that will then exist in this field.

American consumption of distilled liquors (whisky, brandy, gin, rum, spirits) before prohibition and before the abnormal wartime peak, averaged about 130 million proof gallons per year, or about 1.4 per capita. This ratio for today's population would indicate a potential annual market for 175 million proof gallons. Many unknown factors, such as changes of drinking habits, changes of State prohibition laws, and the amount of the Government tax, make this figure highly uncertain. If, for example, the wartime tax of $6.40 per proof gallon (more than ten times the cost of manufacturing) remains in effect, some conservative distillers expect only 60–100 million gallons of legal sales per year. Legal liquor would have to compete with the illicit gin now selling in New York for about 75 cents per quart.

Whisky can only be "bottled in bond" after four years' aging in a Government warehouse. Before prohibition there were normally 200 to 300 million gallons of whisky in bonded warehouses. Present stocks are less than 15 million, of which about 5 million are more than four years old. There are at present fifteen active whisky distilleries, with a combined capacity of 15 to 25 million gallons per year.

Considerable liquor will undoubtedly be imported in spite of the duty of $5 per proof gallon (in addition to the regular revenue tax). The small stock of domestic bonded liquor plus the amount imported will no doubt be multiplied two to five fold by "blending," an operation more familiar to drinkers of the bootleg period under the name "cutting." But in spite of all of these efforts, apparently there will still remain a considerable gap between the supply available and the conservatively estimated consumption needs. And this condition is not a temporary one such as that which confronted the brewing industry last spring, but will continue for years until the warehouse stocks are built up to

* Assistance in the preparation of this article was given by Halbert P. Hill, consulting engineer, Frederic Walter Mellor, architect, John H. French Company, contractors, William Vogelmann, chemical engineer, George F. Ott Company, engineers, Ford, Bacon & Davis, engineers.



300 million gallons, with 80 to 100 million gallons of fully aged liquors maturing every year.

New Distilleries Needed. Of the 500 or more distilleries operating before the war, some were converted to other purposes and a handful continued operation, but the majority were abandoned. Some of these are in a reasonably good condition and will require only minor repairs. At the other end of the scale are many completely hopeless cases — mostly small, antiquated plants that were the victims not of the 18th Amendment but of the superior efficiency of the big distillery with modern equipment and plenty of capital. Between these extremes are many plants, often accumulations of buildings of every age and state of repair, which could, at considerable expense, be remodeled, but which could more profitably be entirely rebuilt. One engineering firm which recently made a survey of the industry, estimates the number worth putting back into condition at 50. Industrial alcohol plants distill molasses and are not as a rule convertible to liquor manufacturing.

Much new construction will obviously be necessary. The architect will be offered the unique opportunity to demonstrate his value to an industry which for the most part "just grew," then died, and is now ready to start afresh. By laying out an intelligent plan and by designing economical well-constructed buildings adapted to the equipment, the architect can render the operation of the entire plant more efficient. He will have to cooperate closely with the owners and their technical experts, the manufacturers supplying the equipment, and the chemical engineer or other outside technicians.

Definition. *Proof spirits:* an alcoholic liquor which at 60° F. contains one-half its volume as alcohol is known as 100 proof; pure alcohol would be 200 proof.

Proof gallon: one gallon of 100 proof liquor; one gallon of pure alcohol would be two proof gallons.

Barrel: a full barrel is normally 50 gallons; however no losses are deducted for evaporation during storage until the liquor is bottled; the loss runs 6–10 per cent the first year and 3–5 per cent each year thereafter. The Government tax-barrel is arbitrarily set at 40 gallons. *Approximate dimensions of barrel:* height 34 in., diameter at head 20 in., diameter at bulge, 25 in.; weight empty 90 lbs. Fifty gallons of 100 proof liquor weigh about 375 lbs. (One bushel of grain produces about 4.73–5 gallons of whisky; approximately 11 bushels produces one barrel.)

Slop: dealcoholized mash discharged from the bottom of the still.

Beer: fermented grain mash, ready for distilling.

Low wine: product of the first distillation in the old discontinuous method of whisky distilling; this stage does not occur in the modern continuous still.

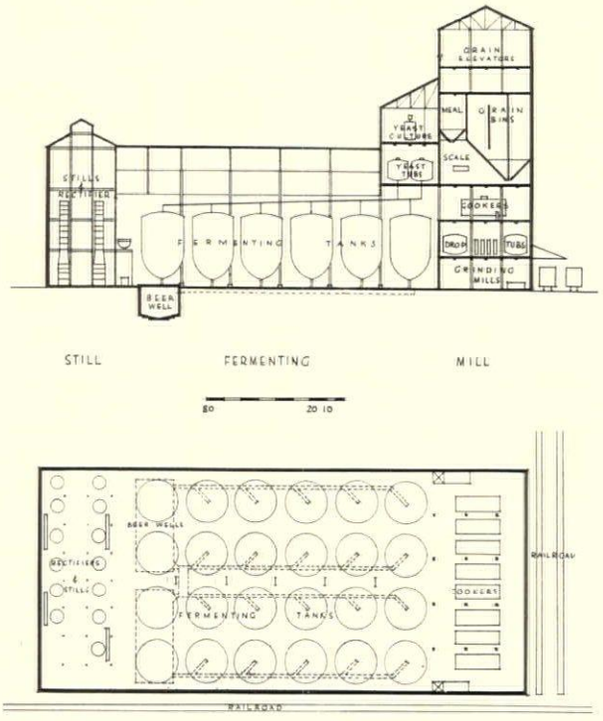
High wine: the final distillate in whisky making, a liquor of about 100 proof.

Cistern: the Government-controlled tank into which the high wine or spirits are received from the stills.

Rectify: to redistill high wine to pure spirits (190 proof).

The principal distilled liquors are whisky, brandy, rum, gin and spirits (alcohol). The process in general consists of making a fermented liquor and then

From the finished $3,500,000 distillery for Hiram Walker & Sons, which is now under construction in the heart of the corn and rye districts at Peoria, Ill., will roll daily 500 barrels of alcohol, 1,000 barrels of whisky, 100 tons of cattle feed and 160 tons of carbon dioxide for dry ice. The site, a plan of which is shown on the opposite page, is approximately 850 x 1,300 ft., with railroads bounding two sides and the Illinois River on a third. Underground is a river with temperature ranging from 52° to 54° the year round to supply abundant water for cooling. Because of the restrictions placed upon the architects, Smith, Hinchman & Grylls of Detroit, by insurance, Federal and local regulations, no attempt was made to unify the buildings either vertically or horizontally. The plan is a direct result of mechanical efficiency interpreted in terms of good design. The buildings are of reenforced concrete and steel with exteriors of brick and stone, and roofs of tile. At right, are a plan and section of the combination grain mill, fermenting building and still



distilling it. Whisky is made by distilling a fermented grain mash (beer); brandy from wine or other fermented fruit juice; rum from molasses and other waste parts of sugar cane. The product of the distillation is an impure alcohol of about 100 proof; it is these impurities which give the liquor, when properly aged, its characteristic flavor and bouquet. Spirits are made by further distilling (rectifying) the impure alcohol until it reaches 190 proof. Gin is made by adding berries, roots and essential oils to pure spirits and redistilling; it does not have to be aged. Liquors are similarly made.

Matured whisky formerly constituted about 50 per cent (about 60 million gallons) of the total yearly production. Spirits made up most of the remainder; gin, brandy and rum were relatively insignificant in quantity. Since most of the spirits were probably used for "blending," whisky in one form or another made up about 90 per cent of the total.

Sizes of Plants. Distillery sizes are sometimes given in bushels of grain consumed per day, more often and more accurately in gallons or barrels produced per day. Sizes range from ten barrels per day in the smaller distilleries to the proposed capacity of 2,000 barrels per day in the new Hiram Walker plant; 200 barrels was an average size in former days, and 800 was a big distillery. Regardless of the size of the plant, the process is the same, requiring exactly the same building units on a larger or smaller scale as the case may be. However, in the small plant, units may be combined under one roof which are more economically built as separate buildings in the big distillery.

Probably the trend is toward the large plant for whisky production; certainly it is for spirits. The superior efficiency of the big distillery in the manufacture of commercial alcohol has been demonstrated. Many old distillers, however, are exceedingly wary of innovations and highly jealous of their art; they will doubtless make whisky by the identical methods and in the identical quantities as formerly. The conflict is the familiar one between the efficiency of mass-production and the personal touch of the craftsman. The small producer is further handicapped by the very slow turnover, due to the necessity of aging his product, requiring a relatively large working capital. Brandy and rum are made in small distilleries only.

Site and General Plan. Distilleries are usually located in the region producing their principal raw commodities. Hence brandy is made in California, rum on the Gulf coast, rye whisky in Pennsylvania and Maryland, and Bourbon whisky (50–80 per cent corn) in Illinois, Kentucky and Indiana. Transportation facilities, perferably including a railroad siding and an abundance of cheap fuel, are important factors. If natural cold water can be had from a spring or artesian well in large quantities, it reduces refrigeration costs materially. Proximity to a metropolitan center is desirable only for a small plant marketing its product principally in that city.

The plant may be under one roof, but is more often several separate buildings. The disposition of the parts on the plot follows fairly simply from the manufacturing processes. The factory buildings are no more than housings for the machinery; dimensions must be figured from manufacturers' data.

There is constant fire hazard in a distillery and every effort should be made to make the buildings as fireproof as possible; sprinkler systems and fire-doors are advisable. Reenforced concrete construction or steel frame with brick, tile, concrete block, insulated sheet metal, or any rigid fireproof and weatherproof insulating board used for the walls are satisfactory. For rough estimates of cost, about 30 cents per cubic foot may be used. The design should employ gravity feed wherever possible to save the expense of pumping. The plan should be reasonably compact for the same reason — elimination of unnecessary piping, pumping, heating and refrigeration.

Government Regulation. Strict Government regulation applies at every step, from the design of the distillery to finished drawings and on through construction and operation. Because of this, the preparation of drawings for a distillery is much more expensive than the architect's usual drafting costs, and he would do well to investigate carefully the Government requirements before attempting to estimate his costs and overhead on the job.

The regulations now in effect are those of the Prohibition Bureau of the Treasury Department. These are in every case reprints with minor modifications of the pre-prohibition Internal Revenue Regulations, Series 7 (Nos. 7, 28, 60, etc.). According to Prohibition Bureau officials, a new regulation will probably be issued before December but it will differ only slightly from the present ones. Regulations 2, 6, 7 and 8 of those now in force contain material affecting the architect of a distillery; they are obtainable from the Superintendent of Documents, Washington, D. C. Regulation 8, concerning the manufacture of whisky for non-beverage purposes, 1929, is the most pertinent. The following excerpt from the latter document (pages 13–14) will give some idea of the requirements for the drawings: ". . . Such plan must be on good paper or tracing linen, 15 x 20 in. in size, outside measure, with a margin of at least 1 in. clear space on each side of the drawings, lettering and writing, so that such drawings, lettering and writing shall not exceed 13 x 18 in. in size. The plans must be drawn to scale, and the scale must be indicated on each drawing. Where the distillery or apparatus occupies more than one floor or story, each floor or story must be shown by a floor plan on a separate sheet, and, if the apparatus be complicated, by one or more elevation or vertical sectional drawings to show the connections and clear spaces. The administrator, under whose direction the plan is to be made and who is to certify as to its correctness, must test the accuracy of every plan made. He must see that competent draftsmen are employed to make it. He will also see that the name of the distiller, the number of the distillery, and the designation of the drawing as a plan, supplemental plan, a plat, or the story represented are indicated at the top of the sheet within the margin in very plain and legible characters.

"The plans must show the exact location of each still, boiler, doubler, worm tub and receiving cistern, the course and construction of all fixed pipes, and of every branch and every cock or joint thereof, and of every valve therein, together with every place, vessel, tub or utensil from and to which any such pipe leads, or with which it communicates; also the number and location and cubic contents of every still, mash tub and fermenting tub; the cubic contents of every receiving cistern; and each fixed pipe and the purpose for which such pipe is used must be indicated thereon by its color. Pipes for the conveyance of mash or beer must be painted a red color; for the conveyance of low wines back into still or doubler, blue; for the conveyance of spirits, black; for the conveyance of water, white.

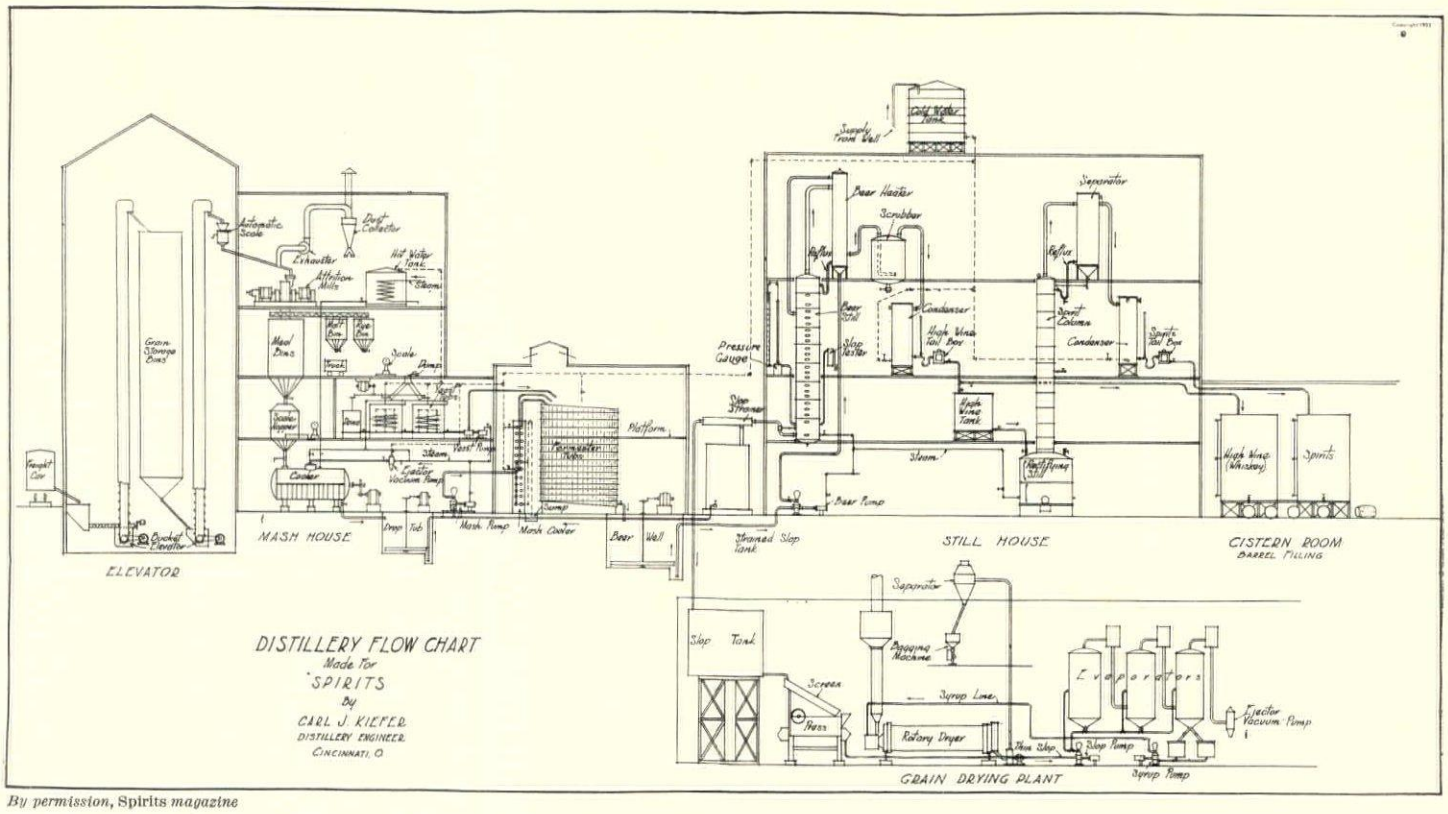
"The description above referred to should, where the space on the sheet will admit of it, be written upon the particular sheet to which it relates, and references to utensils and apparatus should either be by letters or figures.

"The accuracy of every plan and description must be verified by the administrator, the draftsman and the distiller, and this certificate must be dated. . . .

"After such plan is made, no alteration can be made in such distillery or distilling apparatus without the written consent of the administrator, and such alteration must be shown by a supplemental plan of the entire floor on which the alterations were made, which should also be made in triplicate like the original. One of said plans is to be kept displayed in some conspicuous place in the distillery, one kept by the administrator, and one transmitted by him to the commissioner, *rolled and not folded;* and any supplemental plan will be disposed of in the same manner."

These verbatim excerpts indicate but a small portion of the legal limitations under which the distillery designer works.

The Boiler Room. Steam is used in large quantities at every stage of the manufacturing process, and an efficient boiler is absolutely essential. Replacing the boilers is the first step to be taken in reconditioning a plant and may in some cases be all that is required. High pressure steam (150 lbs.) can operate the electric generator and refrigerating plant and be used at low pressure for the many other uses required — for heating mash tubs, yeast tubs, and fermenters, for use in stills, for drying and evaporating slop, for heating water, and for radiation. An efficiently operated steam plan will generate electricity and refrigeration practically as by-products. Electric power operates all moving machinery. Ordinary fuel is used — powdered coal or oil; fuel and water storage must be provided for. In large plants, the boiler house is a separate building.



By permission, Spirits *magazine*

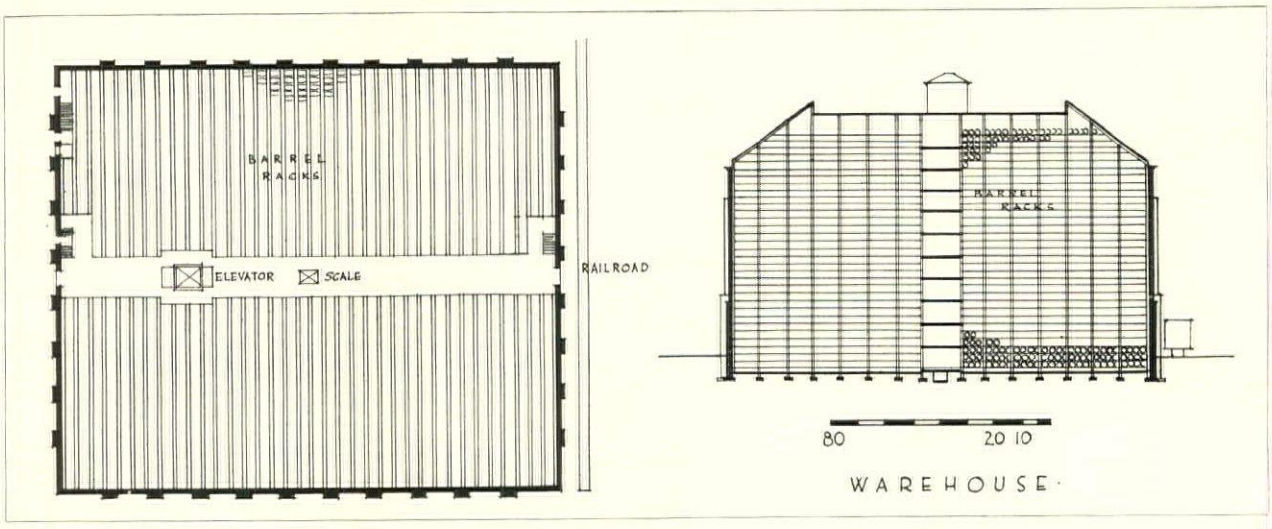
Grain Storage. Grain storage bins were formerly usually of wood, tongued and grooved, and laid vertically. The modern fireproof plant will use concrete or steel. They should be cylindrical in shape, perfectly smooth inside and thoroughly waterproof. Reenforced concrete, 6–8 in. thick, poured continuously (not in sections) in a wet soupy mixture into smooth forms and suitably waterproofed, is a satisfactory construction. The bins should be placed high, so that they can feed by gravity, through an automatic scale into the grinding mills. In the large plant, grain storage will probably be in conventional elevators about 35 ft. high; unloading from the siding may be by pneumatic tubes or by mechanical bucket elevators from a grain pit.

Preparation of the Grain. Dust is extracted from the grain by a blower and it is washed and screened before being fed into the grinding mills. The modern attrition mill is far more efficient and takes up less floor space than the old roller mill. The ground meal passes through automatic weighing hoppers to the mash tubs or cookers, usually directly below.

Mashing. The first step in the actual manufacturing process is the preparation of a grain mash. The crushed grain, including a small amount of malt, is mixed with 20–25 gallons per bushel of water at 140° (slop is used instead of water for sour-mash whisky). This mash is heated to boiling and cooked for 20–30 minutes. Steam is then cut off and the mash allowed to stand for 20 minutes and then cooled rapidly to 150°. The remaining malt is now added and mashing continued at 140° for 20 minutes. The temperature is then raised to 155° by direct steam and then lowered to the initial fermenting temperature, 68–76°. Pressure cookers, with automatic temperature control and steam ejector pumps, are commonly used for the manufacture of spirits. Many whisky distillers, however, claim that the pressure cooker breaks down the grain fibers in such a manner as to injure the flavor of their product and, therefore, use mash tubs. These latter are closed steel tanks heated by interior steam coils and equipped with an agitator; the old open wood tub is considered unsanitary.

Malting and Yeasting. Most modern distilleries will use their own pure culture yeast and probably their own malt. Malt and rye are mixed in about equal weights with the yeast and hot water in closed tin-lined copper vessels and heated to 70°. This yeast mash usually amounts to about 5 per cent of the weight of the big mash. The yeast tubs discharge by gravity into the fermenters, the yeast being admitted simultaneously with the big mash. The yeast culture room is a small separate room and nowhere in the plant is sanitation more important. A hard plaster finish with several coats of white enamel is recommended; all corners should be rounded and projections and crevices eliminated; filtered air is advisable, particularly if open yeast tubs are used.

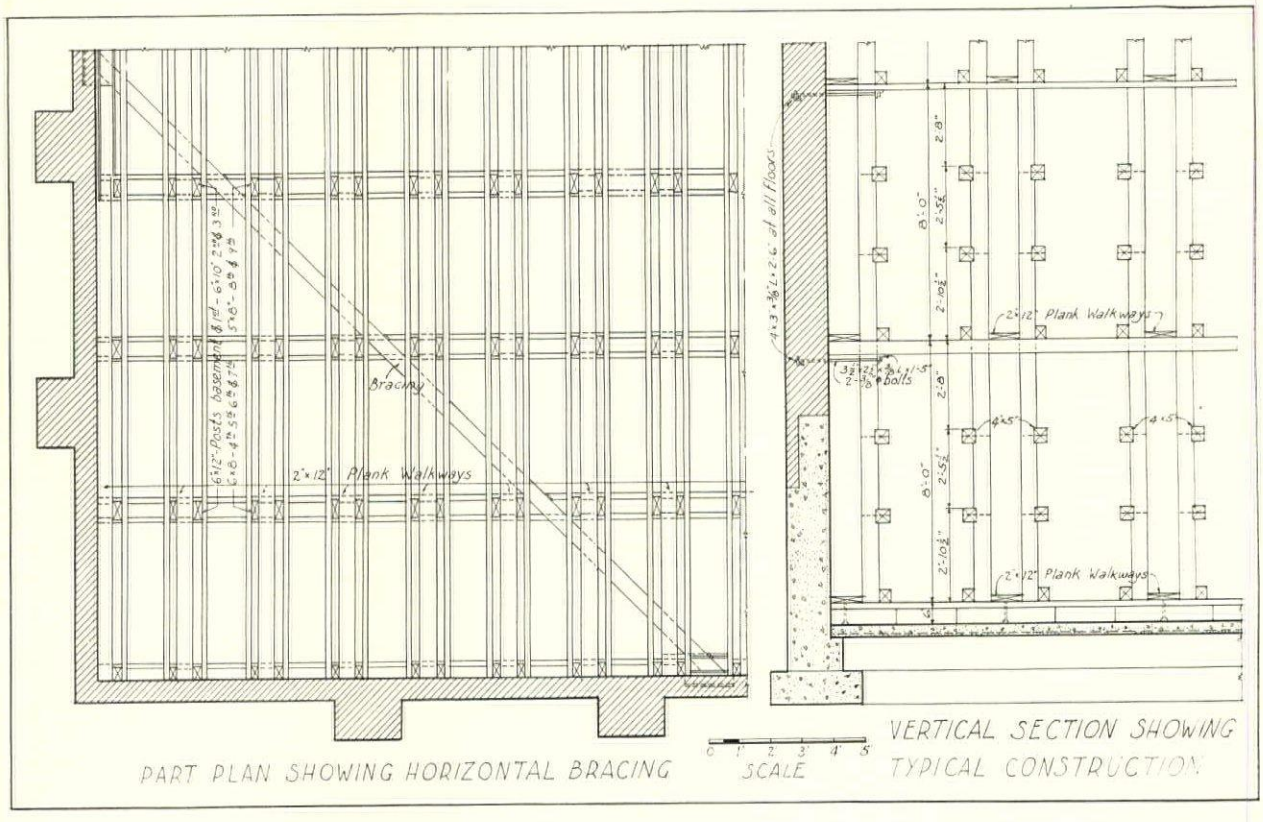
Fermenting. After passing through a cooler, the mash is pumped into the fermenters and the yeast is added. Fermentation continues for 72 hours for



Plan and section of bonded warehouse at Hiram Walker plant, in which during the aging process thousands of barrels are stored on heavy timber racks, built as detailed below, to prevent damage to the barrels and to avoid condensation

whisky (96 hours for sour mash whisky and 144 hours for rum). Formerly open wood vats were used but these are objectionable from a sanitary point of view. Fermenters may be built of concrete lined with 1 in. of a special wax preparation, which is fusible under a blowtorch, hence easily repaired. Enamel- or glass-lined steel tanks are highly sanitary, but difficult or impossible to repair in case of chipping or cracking. Copper, steel and stainless steel are suitable if joints are minimized. The modern closed fermenter not only reduces the danger of infection from wild yeast, but also, by washing the alcohol from the escaping carbon dioxide, increases the yield 4–5 per cent. In big commercial alcohol plants the carbon dioxide is trapped and sold commercially; this is probably not practical for a whisky distillery, with the possible exception of an unusually large plant near a metropolitan market. The fermenters should be kept at a temperature of 70–76°; temperatures higher than 90° kill the yeast.

Distilleries formerly closed down in the hot weather, but the modern distillery uses fermenters equipped with attemperater coils for cooling and heating, the temperature being automatically con-



trolled. The fermenting room is developed horizontally — a large single story room at approximately ground level; the vats rest directly on the concrete floor slab or on a raised concrete sill. Fermenters may be up to 200,000 gal. capacity; floor loads will run 400 lbs. or more per square foot.

Sanitation is extremely important — walls should be hard and smooth, corners rounded and projections eliminated. Filtered air, properly distributed, is desirable, especially if the plant is in or near a large city. If open fermenters are used, complete air conditioning is necessary. The fermented mash is discharged by gravity into the beer well, which is thus below grade.

Distilling. The old-fashioned pot still was formerly used for making whisky and is still much used abroad. Pot stills are usually small, but in Scotland are often around 5,000 gals. daily capacity, and in Ireland up to 20,000 gals. Brandy and rum are made only in small pot stills, usually of about 1,500 gals. capacity. The process in general use in this country before prohibition involved two distilling operations: a three-chambered still with a redoubling still. Since that time, the modern continuous still has been perfected to a very high point of efficiency and will doubtless be used for most modern distilleries. Some old distillers, however, will probably prefer to use the older type with which they are familiar. Live steam is used in the still and a constant supply of steam at uniform pressure is essential. The beer is pumped from the beer-well through a preheater into the still; the vapor passes through a condenser and thence into the high wine cistern by gravity.

This "high wine" is raw whisky of about 100 proof; to become whisky it needs only to be aged in the wood. In the making of spirits, however, the high wine is redistilled (rectified) to 190 proof — practically pure alcohol. The big whisky distillery will probably produce its own spirits, to be used for blending or other purposes; in this case there must be two cisterns, one for high wine and one for spirits. The still house must be a high room since the still columns may be as much as 50 ft. in height. The mashing, fermenting, and distilling is usually done under one roof.

"The doors and windows must be so constructed that they may be securely locked and fastened. All the pipes, vessels and other apparatus used in purifying or refining spirits must be so attached that the spirits will pass through the purifying process in their passage from the beer still to the receiving cisterns, and their passage must be through continuous and securely closed pipes and vessels, so as to preclude the distiller from access to the spirits except in the presence of the storekeeper-gauger, and then only when access is indispensable to the direction of the further process of manufacture. All necessary openings must be under a prescribed lock, the key to be kept by the storekeeper-gauger." (*Regulations 8, Bureau of Prohibition, pages 10–11.*)

Cisterns. When the high wine or spirits leave the still they come under very strict Government control. The Government requires that there must be at least two cisterns, each of sufficient capacity to contain the entire day's production; if both high wine and spirits are produced, separate cisterns must be provided for each. These cisterns must be in a separate room (it is usually a separate building) used for no other purpose.

"These receiving cisterns must be placed in a room or building made perfectly secure, said room or building to be so constructed as to render it impossible for any person to enter in the absence of the gauger without such entry being detected. The ceiling and walls inside of such room or building must be plastered, or cased with matched boards, and if constructed of wood the walls must also be clapboarded on the outside or sided up in the manner usually employed for weatherboarding. The floor must be of brick or stone laid in cement, or of concrete or cement, or of ordinary flooring plank, the same to be tongued and grooved, or laid double, the boards crossing each other at right angles, and in either case to be securely nailed or fastened.

"The windows must be secured by iron bars or gratings and to each window must be affixed solid shutters of wood or iron, so constructed that they may be securely barred and fastened on the inside. The door must be thick and substantial and so constructed that it may be securely locked and fastened. The hinges on the window shutters and door must be so affixed as to prevent their removal from the outside. The staple to which the Government lock is applied must be well secured, so that it cannot be drawn or removed." (*Regulations 8, Bureau of Prohibition, page 11.*)

"These cisterns must not be connected with each other and must be so constructed as to leave an open space of at least 3 ft. between the top and the roof or floor above, and a space of not less than 18 in. between the bottom and the floor below, and they must be separated so that the officer may pass around them.

"The top of each cistern must be securely covered, and no opening will be allowed in the top, except one of sufficient size to allow the distiller properly to plunge or mix the spirits with the water introduced for reducing the spirits to the proof desired.

"Said opening must be so covered that it may be locked, and the gauger will lock the same on leaving the cistern room and retain the key. The faucet, through which the spirits are drawn from the receiving cisterns, must also be locked and the key kept by the gauger.

"The stopcocks that control the flow of the spirits to the receiving cisterns must be so arranged that the spirits may be run into either of the cisterns; and

said stopcocks, if in the receiving room, must be controlled by rods, the handles of which must extend into the distillery and be under lock and key; if such stopcocks are outside of the receiving room they must be boxed and securely locked; and in either case the storekeeper-gauger will keep the key. The storekeeper-gauger, and he alone, is authorized to change the flow of the spirits from one cistern to another." (*Regulations 8, Bureau of Prohibition, page 12.*)

The cisterns are usually copper tanks only slightly above ground level. The barreling is done in this room, by gravity. Heavily charred white oak barrels are used for whisky; metal drums used for spirits.

Bonded Warehouses. The whisky barrels are transferred from the cistern to the warehouse for aging. They are usually rolled by hand, but a large distillery will probably find it advisable to use hand or power trucks or an overhead monorail conveyor. Barrels are usually stored in racks, in order that the air may circulate freely around each one. Wood is used for these racks instead of metal to prevent injury to the barrels and to avoid condensation.

These racks are usually built like library stacks, with no continuous floor except at the ground level. This means that the warehouse is really one big room, through which the air can circulate freely. Since aging is principally a matter of evaporation through the fibers of the oak, together with the absorption of certain impurities by the charcoal, temperature and humidity are important factors. The warehouse must be kept at a uniformly high temperature, perhaps as high as 90°; uni-heaters are excellent for this purpose.

Uniformly maintained low humidity is also very desirable. Storage space may be estimated at 25 cu. ft. per barrel; 2 in. clearance should be allowed at each side, top and bottom of the barrel (for dimensions and weight of barrel see above). Barrels are stored on their sides in double rows with a 3-ft. aisle between. Plank walkways may be laid at every third tier, or a portable electric elevator may be used for raising the barrels to the upper tiers. Racks are commonly 12 or 15 tiers high but may easily be higher where ground space is valuable.

The warehouse is required to be separated from the distillery proper by a solid masonry wall without openings; in practice it is almost always a separate building. Windows, if used at all, must be barred and shuttered; doors should be reduced to the minimum in number and must be of heavy construction and all but one must be capable of being bolted from the inside. Fireproof construction and a generous use of automatic sprinkler systems are about all the architect can do to combat the extreme fire hazard in whisky warehouses.

Blending, Bottling and Shipping. After the matured whisky comes from the warehouse it is bottled, packed in cases, and shipped out. Pure aged whisky thus bottled can be marked "bottled in bond." For blending large glass-lined metal tanks are used; in these tanks the whisky, spirits, water and coloring are mixed before being bottled. Small plants bottle by hand; larger plants use conventional bottling and labeling machines; the largest plants may find it profitable to use mechanical conveyors from the bottling to the shipping room. These rooms are often in a separate building, on a railroad siding. If the distillery produces spirits as well as whisky, the blending and shipping rooms should be convenient to the spirits cistern as well as to the whisky warehouse.

Grain Disposal. The dealcoholized mash is discharged from the bottom of the still by gravity into a slop tank, in a separate room or building. Slop makes excellent cattle feed and formerly a distillery was forced to keep a herd of cattle to dispose of it, since it is forbidden to discharge it into a stream or river or onto the ground. The slop is now strained and the grain pressed, dried and packaged by special machinery and sold commercially as cattle feed. In the large distilleries where the disposal of slop is an important item, it is evaporated in multiple effect evaporators, recovering the by-products. This room or building should be convenient to the still room, power house and shipping department.

Cooperage. The large plant may find it economical to make its own barrels, particularly in the near future when a barrel shortage seems probable. The cooperage shop should be near the receiving siding and the cistern. A general repair shop may be combined with it. Cooperage, however, is a highly specialized art and most distilleries and other industries have found it more economical and satisfactory to buy their barrels.

Vinegar. Some large plants profit from their mistakes by bottling and selling vinegar. In the process of fermenting, wild yeast may get into the mash and produce acetic acid. The vinegar plant should be convenient to the fermenting, bottling and shipping rooms.

Quick Aging. The 50-year old argument over the possibility and advisability of substituting ingenuity for time in maturing whisky is particularly acute at this time because of the minute stock of domestic aged liquor now on hand. Before prohibition the best whisky was aged five to eight years. The present Government regulation for medicinal whisky requires four years. Contrary to the general impression, this is not a law but only a departmental regulation — which can be and has been in the past easily and rapidly changed.

It seems likely that this period will be reduced, at least for the present emergency, but probably not to less than two years. The consensus of opinion among whisky experts is that nothing can age whisky like time and charred oak barrels; none of the old companies plans to use any artificial process.

"HORS de CONCOURS"

WITH KENNETH MURCHISON



ARCHITECTS came in for a lot of publicity a few weeks ago in the Huey-Long-sock-in-the-eye incident at the Sands Point Bath Club down on Long Island.

First reports were that he was socked by a "socially prominent architect." The New York papers immediately sent reporters to the Architects' Building at 101 Park Avenue, New York, and searched every office in the structure for a belligerent-looking architect with barked knuckles on his right hand.

They picked on a young attorney who acknowledged having been on the spot; also on the writer, who happened to be there, too. The Secretary of the Bath Club, Mr. Carl Reimers, emphatically stated that Mr. Murchison couldn't possibly have done so, "as he was behind the scenes at the Charity Show then going on, taking measurements!"

"You see," said Mr. Reimers, "You just naturally can't keep a good architect down. He *will* go about, taking measurements and looking at fronts and rears as the case might be."

Up to this writing, the identity of the sock-dolager has not been revealed by the public press. The Chief of Police of Port Washington was accused of it. He hotly denied it. Attorney Thomas of 101 Park Avenue reluctantly stated that although he had been in the washroom at the moment when the U. S. Senator went crashing down to defeat, he was sorry to say that he didn't think of it quickly enough to do it. *Time*, an omniscient journal of great sleuthing proclivities, said that the son of a naval architect was the happy warrior, but said son is still mum.

It is our pleasure and privilege to scoop our competitors on this news. WE KNOW WHO DID IT! Huey Long was socked by no less than six architects, in fact, three pairs of socks. We know their names and we have interviewed them all. These interviews follow, and we can vouch for the accuracy of these fictitious statements. If you don't believe it, telephone any of these architects (at your own expense) and see if it isn't true.

NOTE: The sketch of the medal was made by George De Zayas at the request of Owen White of Collier's. Unclaimed it rests with the American Numismatic Society. Its Latin transcription means, "By public acclaim for a deed accomplished in private."

Socker No. I. JULIAN CLARENCE LEVI. Telephone Pennsylvania 6-3470. "Yes, I socked Huey Long. And I'm glad I did. I am not what you would call a physical giant — although I have often been called an *intellectual* giant — but I pack a terrific wallop, I do!

"The Kingfish came into the washroom of the Sands Point Bath Club, where I was indulging in a few minutes of quiet reading — leaning against a Crane lavatory — and made several offensive remarks about Mr. Taylor's Beard. Mr. Taylor and I have been raising this beard in active partnership for twenty-seven years, man and boy, and it has proved to be one of the biggest assets in our very successful career. So I socked Huey, that's all."

Socker No. II. RAYMOND MOLEY HOOD, N.R.A. Telephone Longacre 5-7200. "Mr. Murchison, you are indeed right. I am known as the Brain Trust of Architecture. Although I rarely take an evening off, being a total abstainer, I did happen to be at the Sands Point Bath Club that night, and stranger still, in the washroom which I understand is a shining example of your art, Mr. Murchison.

"What was I doing in the washroom, my dear Mr. Murchison? My *dear* Mr. Murchison! We'll let that go by, but as a matter of fact, I was explaining to the washroom attendant that my hair *could* be brushed. We were having a little friendly argument as to what made it stand up so menacingly, when in barged what I might call a tempestuous, raucous and altogether unpleasant individual who seemed to me, sadly enough, to be in his cups. "Who th'hell is that curry comb over there?" barked the offensive newcomer. There was no one else in the handsomely tiled washroom at the moment so I felt that he must mean little Hoody!

"So I socked him one with my right hand, fracturing the small bone of the fourth digit and preventing my doing any drawing for a week. Yes, I will accept the medal, Mr. Murchison, but only for socking, not for drawing."

Socker No. III. JOHN COFFEEHOUSE CROSS of Cross, Cross, Cross & Cross. Telephone Eldorado 5-1330. "Albeit shunning publicity in every form, my intense friendship for you Mr. Murchison, leads me, for the first time since that dreadful night, to publicly acknowledge that I double-crossed the Kingfish.

"Yes, Cross, Cross, Cross & Cross do all kinds of buildings. Residences, Postoffices, towering bank buildings — anything we can get — don't publish *that* Mr. Murchison, it is strictly confidential!

"Oh, you mean how did it happen? Well, I was standing there in the washroom when a loud, blustery, red-faced person came rushing in balancing a plate in his hand and without a word he threw a handful of kidneys directly at my perfectly-laundered shirt front, my best shirt front, I might add!

"'Hey! What's the idea?' I shouted.

"'You are the architect who designed this club, aren't you, and that is why you got them kidneys!' he stormed.

"'I am *not*,' I said, giving him the old crisscross. And down he went and down he stayed. I don't know, Mr. Murchison, who designed that club house, but this I'll say, *I* didn't and I won't be accused of it either. Gimme the medal!"

Socker No. IV. LOUIS LA BEAUME (known as La Bum). Telephone Ashland 4-6240.

"Mr. Murchison, I'm glad its off my chest. Yes, I caught the Kingfish with my right hook! And it's the first time I have used my good right arm, except for drinking and eating, since we were in Paris together two years ago. You remember, when I knocked out the bouncer at the Café du Dôme with a short left hook?

"How did I happen to do this last job? I don't know. I can't remember. I had just arrived from St. Louis and perhaps the Anheuser-Busch up here isn't quite the same as it is down our way. But if there are any medals being handed about, I want the Great Southwet to have its share, so I just took one poke at him and here I get my name in the papers. Yes, you may renew my subscription but please remember that an interview with Louis La Beaume is like a man biting a dog. It's *news*, boy, it's *news!*"

Socker No. V. JOHN RUSTLESS POPE. Telephone Vanderbilt 3-8033.

"You know, Ken (if I may be so bold) I never go anywhere and I rarely speak to architects. I surely cannot be blamed for that little matter of correct taste, my good man. How I happened to be at the Sands Point Bath Club on the night of August 26 is incomprehensible to me. But somehow or other, there I was and I determined to make the best out of what was certainly a bad bargain.

"There was a charity show going on, both of which I hate — shows and charity — so in order to relieve my pent up feelings I strolled into the washroom at 11:22 P.M. or perhaps 11:23. What did I see there? Yes, of course, the usual plumbing fixtures. But what else? What? *Five architects*, Mr. Murchison, *five architects!* And if that wasn't enough, a rough, rude fellow came rushing into the washroom and made straight for me! I naturally thought it was another architect, so I hauled off and decorated his optic — that's all!

"I found out afterwards — too late, for the damage had been done — that it was no architect at all but a very estimable and high-bred Southern gentleman from Louisiana, a Senator, too. As he crashed to the floor he barked 'skunk, polecat' and other sweet-scented words but I am sure, Mr. Murchison, that he didn't mean me.

"The Senator claims that he was 'ganged' and I believe him. And I can think of nothing worse than to be set on by a gang of architects! Yes, I will accept the medal but I've got so damn many now I can't count 'em. Just send fifty copies of your paper to my Newport palace prepaid, won't you?"

Socker No. VI. A. STEWART WALKER, of OLD JOHNNY WALKER, LTD. Telephone Volunteer 5-1345.

"My dear sir, I don't want to be bothered by any more newspaper reporters. I told my secretary, Hazel Wood, only yesterday that I must not be interrupted again in my private office . . . Mr. Murchison, there you go again!

"But owing to the fact that you deny saying that my First National Bank ought to be in the Campo Santo at Genoa — and I don't believe you ever did say any such thing, Mr. Murchison, and you haven't sense enough to know what a Campo Santo really is — I will for the first time, acknowledge that I socked Huey Long at the Sands Point Bath Club on August 26th, and that I'd do it every time I could get the drop on him. For that's what he tried to do to me, get the drop on me. And he failed, dismally. But do you happen to know the telephone number of that baby who was third from the right in that cradle number of the show that night? No it has nothing to do with architecture. Nothing at all!

"Eldorado 5-3000? Why, that's the Waldorf! Never mind then. I wouldn't mind the Brevoort or the Hermitage but not the Waldorf! The entrance fee is too high. I'm a man of simple tastes and we haven't as many jobs just now as we had in 1929. I have my health, however, and my wonderful color!"

So now you know, gentle reader, who socked the Kingfish.

THE

ARCHITECTURAL

FORUM

▼

BUILDING MONEY

A monthly section devoted to reporting the news and activities of building finance, real estate, management and construction

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WASHINGTON DODGE, II

Editor

SPURRED BY CRITICISM

the Public Works Administration speeds its tempo and Secretary Ickes gives his answer.

FOUR men of the Public Works Administration toured the nation in an official airplane last month, visiting Boston, Chicago, Kansas City, Salt Lake City, Fort Worth and Atlanta. They were: Col. Henry Matson Waite, deputy administrator; Henry Thomas Hunt, general counsel; Lewis P. Mansfield, director of finance; and Aubrey E. Taylor of the public relations staff. Their purposes: to urge upon regional advisers, State boards and State engineers the need of rushing some projects to Washington for approval; to explain to mayors and other officials some of the misunderstood features of the Act, such as the nature of the 30 per cent grant.

The four men of the Public Works Administration were probably too busy to stop at a newsstand and scan the cover of the *New Republic* of September 20 (on which date they arrived in Atlanta), but had they, their eyes would have jumped at the cover which announced "'Who Is to Blame for the Failure of the Public Works Program?' by John T. Flynn."

Writer Flynn, who is known for his iconoclastic pen and a famed bombardment of the investment trusts, said "It is perfectly plain now that the public works program as an instrument of recovery has been actually abandoned, if indeed it was ever seriously accepted by the Administration. . . . To this conclusion I have been forced reluctantly, after a visit to Washington for the purpose of learning what is holding up this most important instrument of recovery. The delay is to be charged to no one but the President himself."

In support of his statements, Mr. Flynn pointed out that few men have as yet been put to work, few dollars actually spent. He charged that applications have been subject to needless delays in Washington, that while Secretary Ickes and his staff are competent men they are so afraid of criticism that they dare not move. His solution: new enthusiasm on the part of President Roosevelt for public works as a real means to recovery rather than a dole-substitute.

The Flynn article apparently set other people to thinking. The Scripps-Howard *World-Telegram* in New York suddenly decided that the slowness of public works was threatening the NRA program and therefore was news enough to carry a four-column right-hand side headline (see illustration). John W. Kelly, capable Washington correspondent of the Oregonian News Bureau, wrote his public that "There are stacks of applications for projects cluttering desks in the Interior Building. The applications, with maps and data, are scattered inches deep without order or system. . . . Every application for financing public works is examined for an excuse to reject it."

The first answer of the Public Works Administration to these criticisms came on September 22. Secretary Ickes announced that sound applications were coming in at a rate sufficient to eat up all the $3,300,000,000 by January 1. Addressing the conference of Mayors in Chicago, he urged them to rush their applications to Washington.

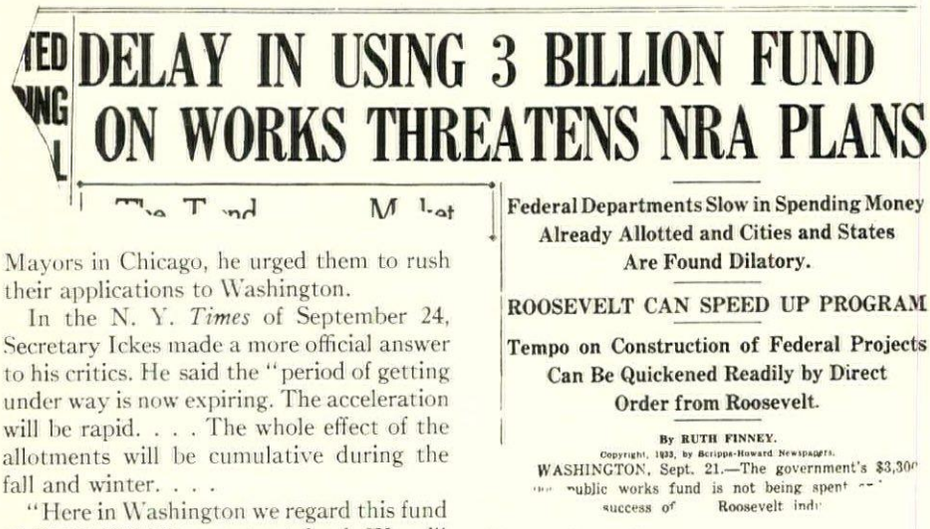
In the N. Y. *Times* of September 24, Secretary Ickes made a more official answer to his critics. He said the "period of getting under way is now expiring. The acceleration will be rapid. . . . The whole effect of the allotments will be cumulative during the fall and winter. . . .

"Here in Washington we regard this fund of $3,300,000,000 as a trust fund. We will not authorize the expenditure of a single penny of it unless we are convinced that it will contribute toward the economic recovery and social welfare of the country. Every project is carefully scrutinized and only the unqualified, undesirable and impossible ones are rejected. The very groups and individuals who are now shouting for unregulated expenditures and a wide-open door to the Treasury would be the first to raise a hue and cry if we betrayed our stewardship and misappropriated money for any purpose except their own."

On October 1, Secretary Ickes revealed that allotments had reached a total of $1,653,591,410. Of these, 177 were non-federal loans, 3,500 Federal. However these allotments must be considered more in the nature of earmarkings than loans. The $25,000,000 dedicated to subsistence homesteads is an allotment; so is the $400,000,000 road fund, application of which has been so slow that Secretary Ickes has threatened to withdraw some of the funds from laggard States and otherwise chastise them.

By the first of the month it was estimated in Washington that only $70,000,000 of the $3,300,000,000 had actually been spent. "Dirt is flying but not in sufficient volume to suit me," said the Secretary, adding that he was "nagging" Federal departments to hurry and spend their $1,478,963,000 of approved allotments, to which no strings are attached.

Most of the remaining part of the fund will go to non-federal loans, $174,627,569 worth of which have already received various degrees of approval. Last month notices went to the State Boards in the North to speed action on projects which would be effected by winter, and Secretary Ickes gave out an interview which revealed that he was fighting mad and would move Heaven and earth to get jobs going. He denounced any "unrestricted orgy of flinging millions of public dollars towards unknown destinations," praised "the splendid staff of the PWA," and said, "If reckless blanket allotment of the total fund had been condoned there would have been no chance of any large portion of the public works dollars ever going into pay envelopes."



DELAY IN USING 3 BILLION FUND ON WORKS THREATENS NRA PLANS

Federal Departments Slow in Spending Money Already Allotted and Cities and States Are Found Dilatory.

ROOSEVELT CAN SPEED UP PROGRAM

Tempo on Construction of Federal Projects Can Be Quickened Readily by Direct Order from Roosevelt.

By RUTH FINNEY.

Copyright, 1933, by Scripps-Howard Newspapers.

WASHINGTON, Sept. 21.—The government's $3,300

public works fund is not being spent

success of Roosevelt indi

Four-column Impatience

Notable during all this tempest was the fact that the building industry itself last month was still satisfied with public works progress, knowing that days must of necessity elapse between the signing of a contract and the first appearance of men at work.

• • •

News-worthy housing loans receiving tentative approval last month included:

Cleveland. It has long been felt that Cleveland, with its great unemployment, its abundance of cheap slum land, its keen civic interest, would be the nation's proving ground for large scale housing (THE ARCHITECTURAL FORUM, June). Last month, with a $12,000,000 housing loan awaiting the raising of $2,000,000 locally, Cleveland reached the apex of housing consciousness.

The loan will be for developments which form a portion of three projects for which the architects are Walter McCornack, Joseph L. Weinberg and Frederick W. Strivinger. Architect McCornack's Cleve-



Prime Mover: Cleveland

land Homes, Inc., was chosen to combine the group's activities and its directorate was boosted to include many prominent Clevelanders.* Benedict Crowell, rich engineer, stepped down from the corporation's presidency and was succeeded by Leyton Carter, 41, director of the Cleveland Foundation, a non-partisan organization to which many wealthy Clevelanders bequeath money which is used in various civic projects. Popular, a student of municipal administration and public law, President Carter has followed housing developments closely and it was felt that his leadership of the enterprise would aid the cash-raising drive.

The three sites to be used are among Cleveland's drabbest. They were selected on the basis of data assembled by the City Plan Commission, the subcommittee on housing of the Mayor's Business Recovery Commission and Howard Whipple Green, consultant to the Housing Division of the PWA. Some of the 115 acres to be used is already optioned and little difficulty is expected in obtaining the rest.

This $14,000,000 plan far from exhausts Cleveland's housing hopes. A plan rapidly maturing last month was for forming a Cleveland Metropolitan Housing Authority. Being a purely public body, it was thought that this Authority would be eligible for direct grants, normally unobtainable for housing.

Euclid. First actual loan contract to be signed for a Public Works housing project went to Euclid, an industrial city about ten miles from Cleveland. The loan is for $1,000,000, with an additional $2,000,000 to be available if the first loan is satisfactorily absorbed.

The Euclid situation is a novel one. Several years ago a portion of the city was platted and improved and 9,000 lots sold. About half of these are now free of financial encumbrances but the owners can get no building money despite the fact that there is an acute housing shortage in Euclid due to the presence of several large new plants, including those of Addressograph-Multigraph, Chase Brass, General Electric.

The Housing Corporation, actively promoted by Mayor Charles P. Ely, plans to build and finance homes in groups of not less than 50 and with an average minimum frontage of 50 ft. Landowners will be invited to turn in their titles, free and clear, to the corporation and to give it a mortgage to cover the cost of a home. The mortgage will be given to the Cleveland Trust Co. as trustee and the Government will lend dollar for dollar against it. The corporation will then give the site-owner a wide range of approved plans in different price groups to choose from and contracts will go to the lowest bidder. George B. Mayer is the corporation's architect and plans one- and two-story brick or frame houses with a maximum price of $5,000.

The Government will cancel the mortgage if it finds a home owner trying to sell at an excessive profit or to rent for a return of more than 6 per cent on the investment. Most of the mortgages will be paid off at a rate of $30 or $35 a month. The corporation needs no cash of its own, since its titles to the lots will be sufficient equity. Many of the sites are owned by workers who will live in the homes and are now six or seven miles away from their plants.

Indianapolis. It is estimated that 2,000 homes in the Negro slums of Indianapolis will be abolished and two dwelling projects consisting of one-story, single family dwellings, two-story flats, three-story apartments and two-story row houses of semi-fireproof construction will be erected with the $4,460,000 loan to Indianapolis. The units will vary from one to five rooms with the average rental for a three-room unit, including heat, to be $25. The tenants will probably all be Negroes.

Chief sponsor of this housing development has been the Chamber of Commerce. Last spring its community plan committee, under the chairmanship of one-time State Senator Joe Rand Beckett, began an exhaustive survey of the city's economic and social conditions. It was found that bad living conditions among 10 per cent of the population cost taxpayers $1,000,000 a year in charges of largely a social character.

This fact was much publicized by the Chamber of Commerce, and it was no surprise to Indianapolis people last month when Housing's Robert David Kohn, St. Louis-bound, told interviewers that their city is one "where apparently there are a considerable number of areas, now slums, that can be acquired at a price which makes low-cost housing possible."

As soon as the housing plans are fully approved, the Chamber of Commerce will back a public offering of about $800,000 worth of stock in the housing corporation. Much secrecy was being maintained last month about the exact location of the housing lest land speculators start sniping at it. But it was known that it would consist of 40 acres, costing only 16 to 20¢ per sq. ft.



Bretzman

Prime Mover: Indianapolis

New York. Clarence Stein's famed Hillside Housing project in the Bronx came back into the news columns last month when it received a $5,184,000 loan — $1,227,000 more than the original R.F.C. loan which was withdrawn after the great agitation caused by the fact that the project then sought tax exemption and cleared no slums. Chief sponsor of this development is Nathan Straus, Jr., prominent philanthropist. Average room rentals will be $11 or less per month and if tax exemption is



Indianapolis Slums

* The directorate includes Benedict Crowell; Harold Burton (former mayor and city manager); Dudley Blossom (wealthy philanthropist who has been head of the Welfare Department); Judge Harry L. Eastman (Juvenile Court); Fred W. Ramsey (chairman of the finance committee of the Mayor's Business Recovery Commission and vice president of Perfection Stove Co.); Paul L. Feiss (chairman of the first city housing committee); Dr. Charles Thwing (president emeritus of Western Reserve); George Bellamy (head of one of the city's settlements); Newton D. Baker; Morris A. Black (department store head).

ever obtained the saving will go towards rent reductions.

Hallets Cove Garden Homes in Queens received a loan of $2,965,000 for the construction of 31 six-story elevator fireproof apartments, to contain 3,000 rooms and 680 apartments. They will arise on an eight-acre site near the East River, now occupied by old dwellings. Each apartment will have a cross draft and many will have a river view. Among the officers and directors are James C. Stewart, builder, Peter Grimm, real estate man, and Alfred Fellheimer, architect.

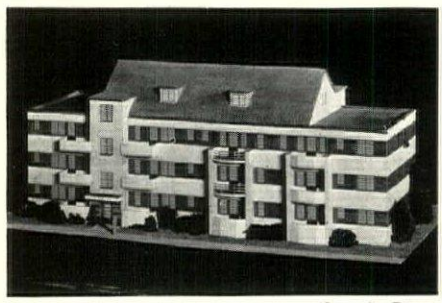
✚ Fred F. French, who has been striving to meet all the requirements of the R.F.C. loan for his Knickerbocker Village last month celebrated the final and official contract signing in his office. To the high noon ceremonies came Joseph V. McKee whose Title Guaranty and Trust will close the title and act as trustee under the mortgage.

Philadelphia. Bids were received last month for the housing project sponsored by the American Federation of Full Fashioned Hosiery Workers (THE ARCHITECTURAL FORUM, September) when another Philadelphia loan application received tentative approval. It will be a 1,620-room development consisting of six-room residences and three-story apartments and the Public Works Administration expects to lend $1,290,000 to it. Six miles from the City Hall, it is within walking distance of an extensive industrial area. A low rental of $7.50 per room is the goal of the sponsors who include such prominent Philadelphians as J. Stogdell Stokes, president of the Museum of Art, Samuel Price Wetherill, Jr., vice president of the City Planning Commission, Bernard J. Newman, managing director of the Philadelphia Housing Association, Mrs. Alice Liveright, State Secretary of Welfare, and Mrs. Gustav Ketterer, prominent in the famed "Renovize Philadelphia" campaign.

Raleigh. The hurricane which hit Raleigh, N. C., last month caused a great deal more excitement than the announcement several days previously that the city would be the site for a $207,000 housing scheme, to which would go $168,000 in Federal funds. Perhaps one reason for Raleigh's rather complete lack of interest in its housing is that it has no dramatic value, will not eliminate one of the disreputable shacks in the colored section. It will be in a nice residential section about midway between the State College and the city's center. In it will dwell State employes, which constitute a large part of Raleigh's population, teachers and students. Raleigh realtors feel that the addition of three three-story buildings with 54 apartments and 180 rooms (to rent at about $10) may only further unsettle the Raleigh residential and apartment house market. Sponsors of the project are the brothers Rufus and William Boylan, grandsons of a successful Raleigh merchant. Linthicum & Linthicum are the architects and plan Georgian buildings. The Boylans own the site, which is still known as "the old Boylan place" and will probably contribute any further equity needed. The project will operate under North Carolina's new housing law.

St. Louis. Six blocks from the business district of St. Louis in an area of slums is a block which is unimproved except for the one-story garage which occupies one-quarter of it. Last month this block had its picture taken many times, for upon it will arise the housing project which has received tentative approval of a $500,000 Federal loan.

Behind the project is the Better Housing Committee of the Neighborhood Association of St. Louis, the directors of which have pledged subscriptions for the necessary $100,000 worth of junior financing. This money will go into second mortgage 5½ per cent bonds which will commence to be amortized in ten years. There will be a nominal amount of capital stock which will be held by the Association's directors but it is planned that all earnings on this stock be applied to rent reductions.



Alexander Piaget

Neighborhood Gardens, model unit

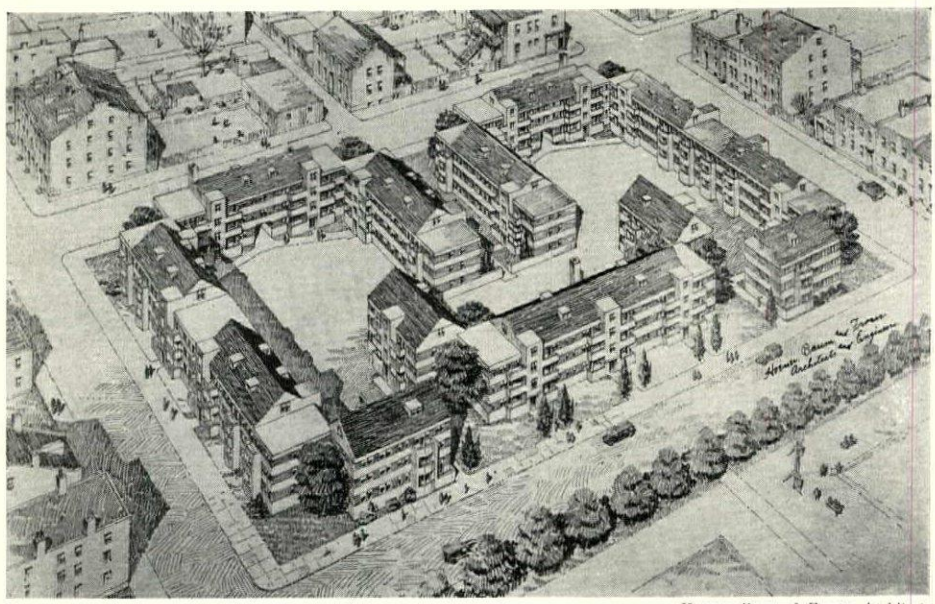
The plans, by Hoener, Baum and Froese, call for the construction of five three-story walk-up buildings around a courtyard. There will be only 36 per cent coverage and the large vacant area will contain playgrounds and sand boxes. The buildings will be reenforced concrete with matte brick exterior. Brown, red, blue and yellow paint will be used freely in the color scheme. Each building will have its own janitor and heating plant. The basements will be used only for the heating; laundry rooms will be provided in sunny attic space.

A feature of the plans is that each apartment will have its own small balcony. Not more than 12 families will use any one of the 23 entrances, of which 16 will be on the inner court. It is also planned that as far as possible families will be grouped according to nationalities.

The net rentable area will be about 97,000 sq. ft. and the buildings will contain a little over 1,500,000 cu. ft. Their net cost is estimated at about $425,000. The 270 x 407 ft. plot will cost about $1 a sq. ft. at the most. The smallest unit, consisting of one large room, a dressing nook, kitchen and bathroom, will rent for about $17 a month, or only a dollar or two more than the cost of dilapidated quarters with antiquated facilities across the street. Of the 252 apartments, 131 will be of this type, 105 will contain an extra bedroom and will rent at around $25 and 16 will have two added bedrooms and will rent around $35.

Prospective tenants will be investigated by the Neighborhood Association. Renting will probably be on a monthly basis, subject to cancellation on 12 hrs. notice. The Association will give nursery supervision and instructors for adults as well. Likewise, tenants will have use of the Association's community center twelve blocks off and of the Association's bus to its Camp Skullbones-in-the-Woods, 35 miles out of the city.

The project was first seriously considered about three years ago. Its leading promoter has been J. A. Wolf, executive director of the Association who six years ago, at the age of 37, gave up publishing educational books to work for the Association. Last year, under the auspices of the Oberlaender Trust of Philadelphia he toured Germany and Austria to study housing.



Hoener, Baum & Froese, Architects

Neighborhood Gardens, perspective

TICKER TALK

One and All:

Stockmarket speculation is no child's play. Even under favorable conditions the number of variables in the to-buy-or-to-sell equation shames a problem in theoretical physics. Since March 4 the variables have been increasing like rabbits, and even men of vast wealth and adequate intelligence find it impossible to make commitments with reasonable conviction. The trouble is that the rabbits all came from one silk hat — and there is no telling when another will pop, full-armed.

Money, soft or hard? The Governor of President Roosevelt's adopted State, Georgia, seriously urged that the Government print ten and twenty dollar bills, scatter them by plane the length and breadth of the land. His secretary, a more exact man, suggested that the greenbacks be loaded into army trucks and an amount equal to the annual per capita tax bill, about $75, be distributed to every man, woman and child.

The dollar relapsed to 63 cents. Though an important White House announcement is expected soon, the winds of Inflation blow hot and cold. But the market last month ceased to react to the old needle; stocks sold off with the dollar, rose in the face of hard money hints and generally confused everybody.

✚ While it was fighting black-maned John Lewis and his fellow miners last month, Pittsburgh Coal's advance toward new markets in Cleveland and the Mahoning Valley was stopped. William Wallace Atterbury, Pennsylvania's steel-eyed president, got a temporary injunction ordering the little Montour R. R. to cease and desist from driving a spur through the Allegheny foothills to Ohio and water transportation. Pittsburgh Coal owns the Montour and Andrew William Mellon and his brother Dick control Pittsburgh Coal. The Mellons asked the I.C.C. for permission to build the Montour five years ago. It would enable them to deliver bituminous in Youngstown 40 cents a ton under their competitors.



Underwood

Fought Atterbury

Pennsy and Pittsburgh & Lake Erie howled, and the I.C.C. refused sanction. But the more they thought about it the more the Mellons wanted those big industrial markets. So they decided to ram the road through the hills and let the I.C.C. ponder a *fait accompli*. About a year ago construction gangs marched out from Smiths Ferry, Pa., to build the 12-mile spur. Into the courts marched Mr. Atterbury's battalions of lawyers to prevent the contractors from throwing the road across county highways. The contractors, smart, threw their crossings on Sundays when legal papers could not be served.

When Pittsburgh Coal wanted to dredge out a creek for its docks, Mr. Atterbury claimed it would injure the piers of a Pennsy bridge. Judges are still pondering an injunction on that point. Pittsburgh Coal brought down farmers to the county seat to swear that a road out their way was no more than a cowpath, better to abandon it so that the Montour could have a stretch of bed than try to maintain it. Mr. Atterbury's lawyers started taxpayers' suits to hold up highway crossings that couldn't be thrown on Sundays. Every time the lawyers moved the Mellons shot in more steam shovels. When winter shortened the days, the shovels gouged by searchlights.

Meantime, Mr. Atterbury, who wants that coal traffic very, very much, sought an injunction against the whole project. Not until a few weeks ago did a Federal judge grant a temporary stay, pending final hearings. At Negley, Ohio, laborers were completing the last quarter mile when a U. S. marshall posted notices. Not a pick clunked, not a shovel scooped that day or the next, or the next. If anyone had lifted a finger for Montour R. R., he could have been clapped in jail for contempt of court. But no one believed that even the authority of a permanent Federal injunction would swerve the Mellons from their determination to carry their own coal. And, sure enough, on October 2 the Federal Court refused to grant a permanent injunction to the Pennsy, although admitting "It is true that some deception or at least sharp practices were resorted to by the defendant." Chief factor in the decision was the Court's opinion that Pittsburgh Coal's railway was a purely private enterprise. (Note: the Mellons are also among Pennsy's largest stockholders.)

✚ One of the imponderable variables which is sending money to London so fast that the British bankers loudly cry Hold, too much! is NRA. The Blue Eagle is laying some dubious eggs. Aside from the fact that NRA will keep profits at a minimum until unemployment is history, it is breeding labor troubles. Played down by the press, strikes are spreading and many observers quietly predict that labor will get entirely out of hand before Christmas. Labor has tasted the New Deal, said "Umn, umn!" and is crying for more. A nasty mess!

One labor man returned to Washington from a trip through the Southern textile mills with complaints of code violations in 500 different plants. Because of the minimum wage, almost all Negro labor is being replaced by white hands who are glad to take $12 a week. The Negroes, now city-dwelling, will presumably slowly starve.

Standard Oil of New Jersey, whose attitude toward the oil code is discreet hostility, is reported around Washington to be leasing its filling stations to employes. They contract for Standard gas but are responsible to NRA as individual business men; as individual business men, for instance, they can work as long as they wish. The Washington story has it that General Johnson and Secretary Ickes know all about this but are legally helpless. And they don't want to fling Jersey to the press for fear of putting bad ideas in others' heads. Furthermore there is Mr. Ford.

✚ Mr. Atterbury, a crisp, military man who likes his perfectly good title of General and who dresses for dinner even when traveling alone on his private car between Philadelphia and Manhattan, was asked by the R.F.C. to take a cut in salary. His immediate reply was to pay off the last installment of Pennsy's electrification loan. Then Coordinator Eastman asked him to take a cut. He took it — $103,882 to $60,000 — but not until a large accounting firm had been called in to make a study of Pennsy salaries in terms of purchasing power. Said they: In 1913 a Pennsy president got $75,000; now General Atterbury had to pay an income tax which, plus higher living costs, reduced his $103,000 to $55,700, the 1913 basis. Mr. Atterbury once remarked: "If you become the greatest musician in the world, what of it?"



Underwood

Fought Mellon

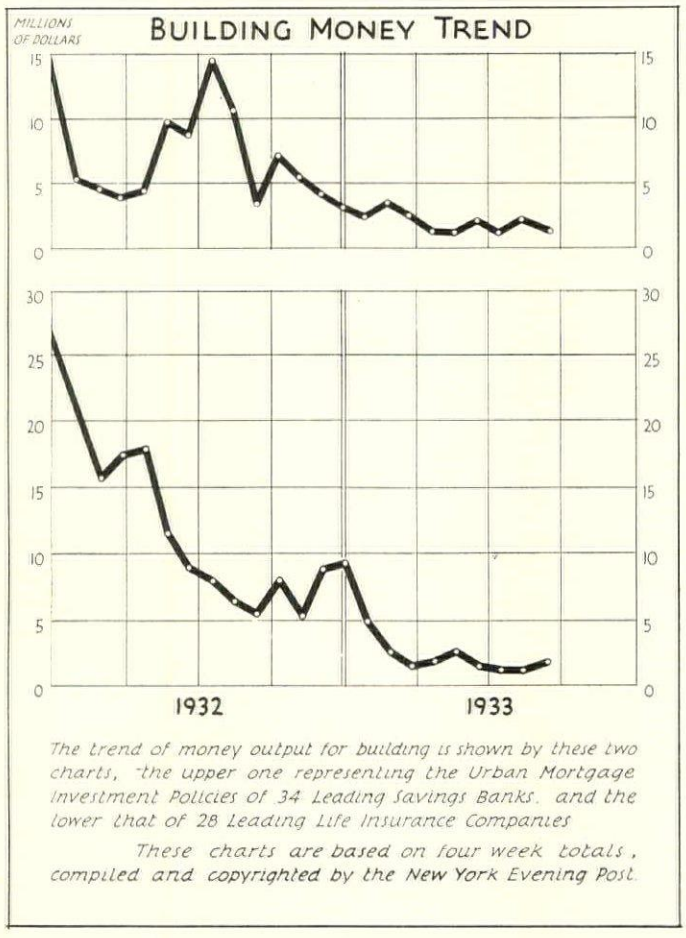
✚ The flight from the dollar continues; hedging schemes dominate table talk. John A. Goodwin, a capitalist who is about to launch a magazine composed of nothing but letters, recently started looking for a farm. It would be a good thing to have on *Der Tag*. Near New Milford, Conn., he found almost exactly what he was looking for. There was plenty of land, a sturdy frame house in fine condition, steam heat, telephone, electric lights, running water. There was even an air conditioning unit. But there was no bathroom. Mr. Goodwin was curious. Why, with all convenience including air conditioning was there no bathroom? "Well," said the farmer, "folks around these parts don't like to do that sort of thing in nice houses."

Between Sales: Name-of-the-month: Franklin Delano Blue Eagle Knapinski, born in Milwaukee . . . A point overlooked: it is a mighty tough job to inflate the currency in the U. S. because the prime medium of exchange is bank credit — checks — not cash. You can turn on the printing presses but the greenbacks will go right back into the banks. Pay off Liberties with paper money, but who is going to keep even $1,000 in cash lying around? Inflation in the U. S., to be effective, must be credit inflation . . . Two other variables for your formula: deposit insurance, longtime financing under the new Securities Act.

Sincerely yours in NRA,

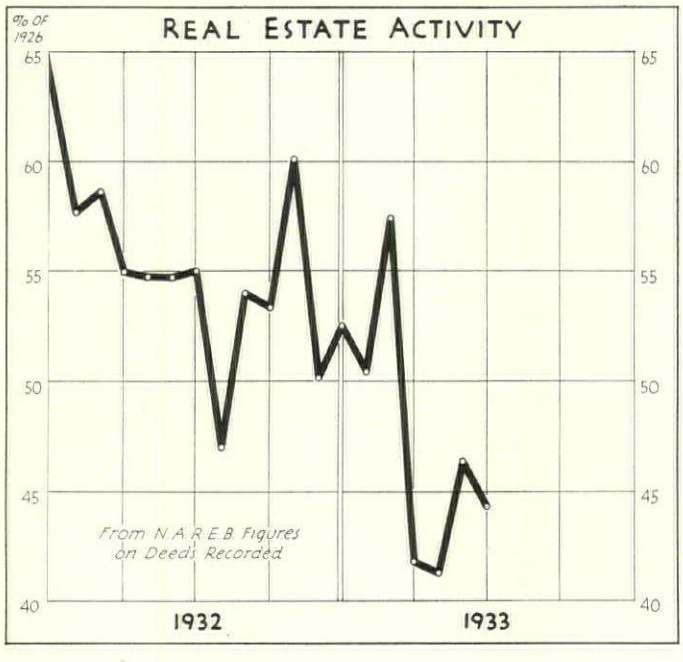
Longan Short

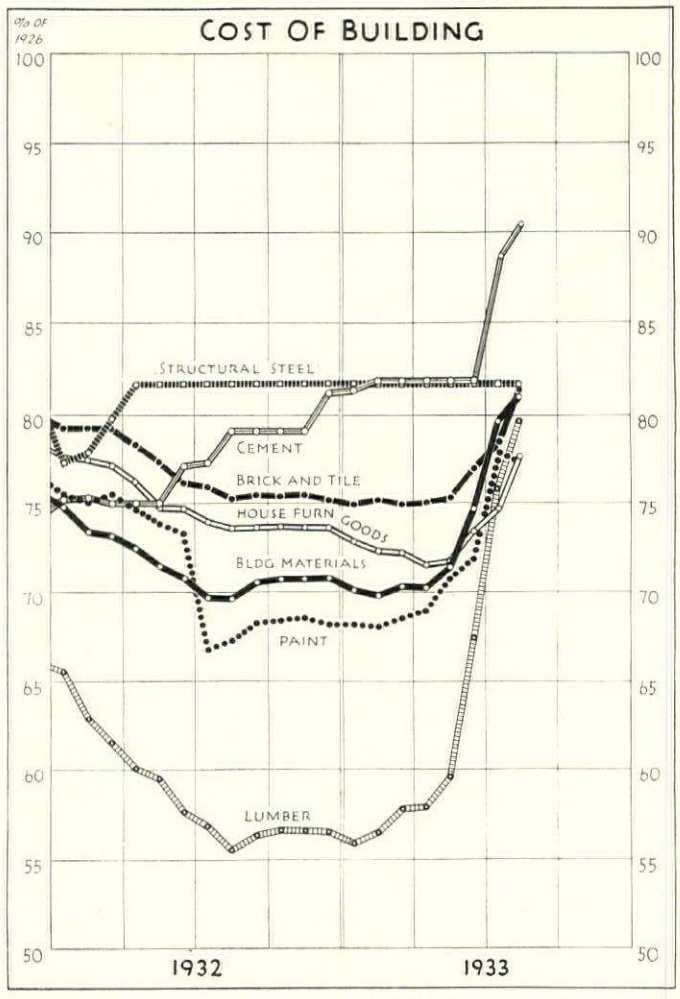
CHARTS

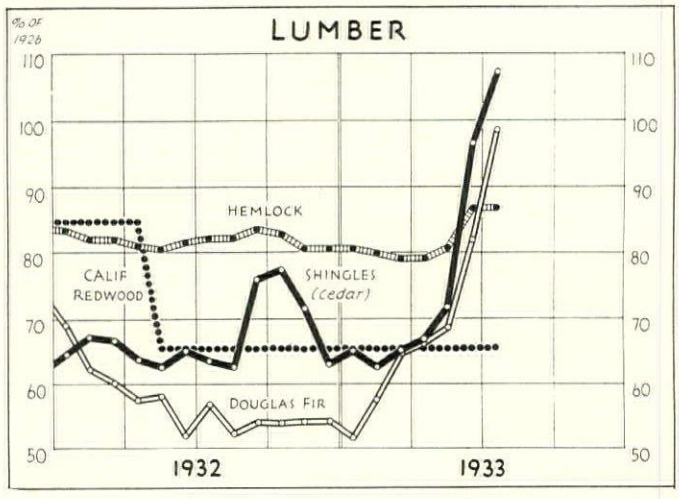


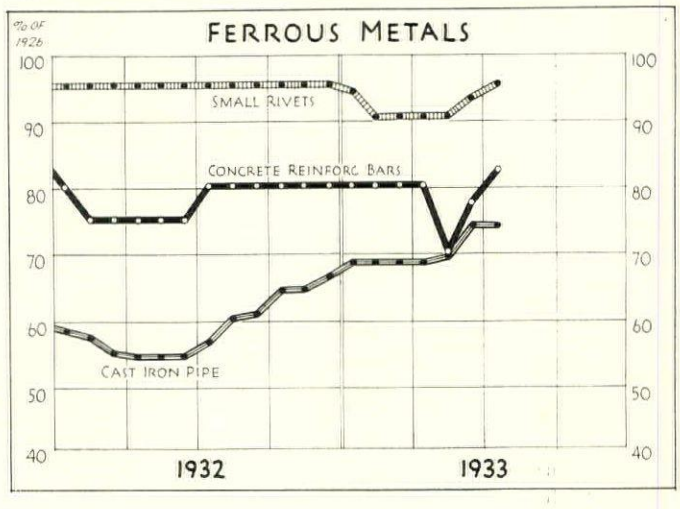
The trend of money output for building is shown by these two charts, the upper one representing the Urban Mortgage Investment Policies of 34 Leading Savings Banks, and the lower that of 28 Leading Life Insurance Companies

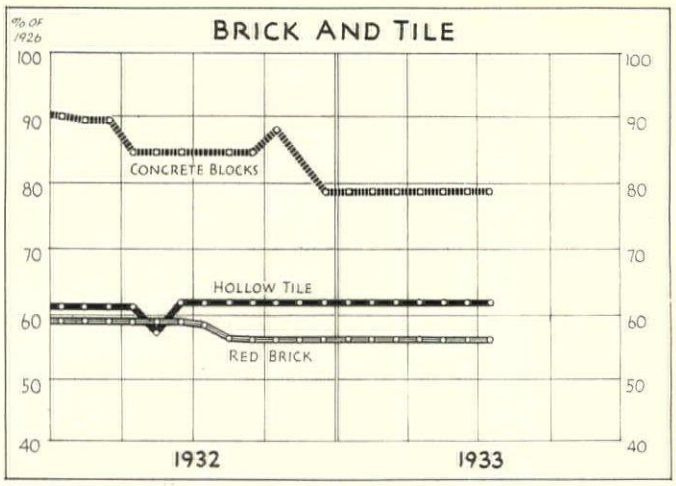
These charts are based on four week totals, compiled and copyrighted by the New York Evening Post.

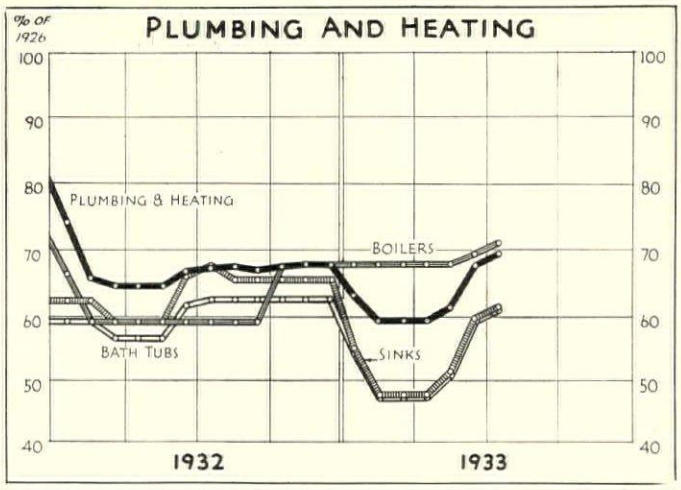


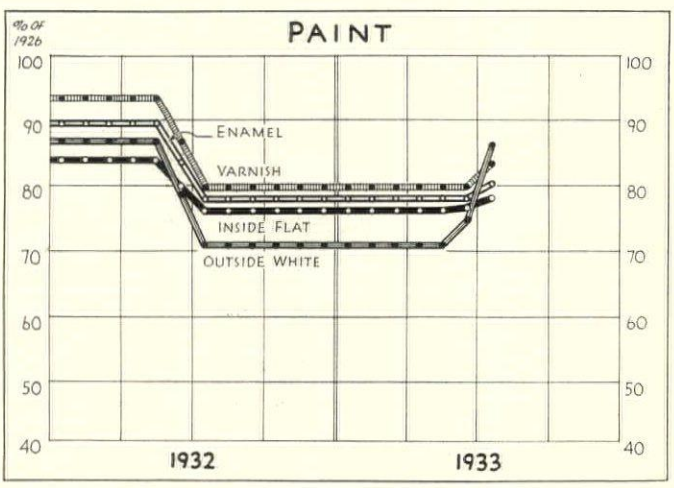


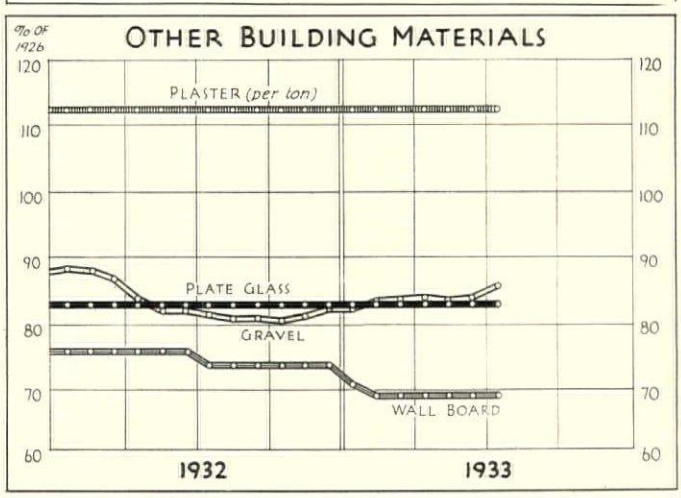


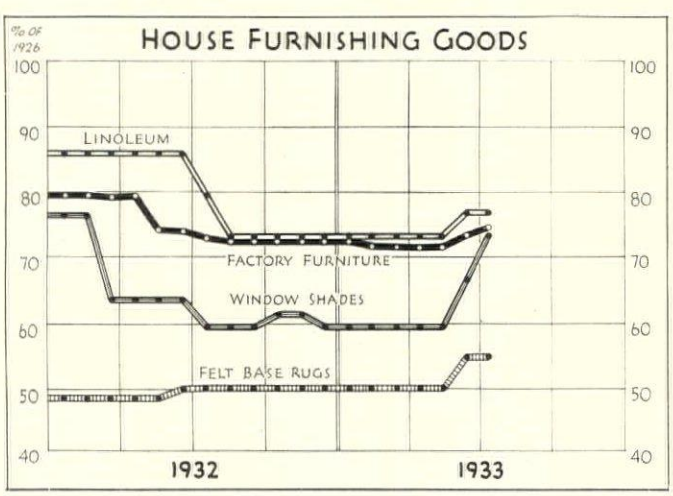


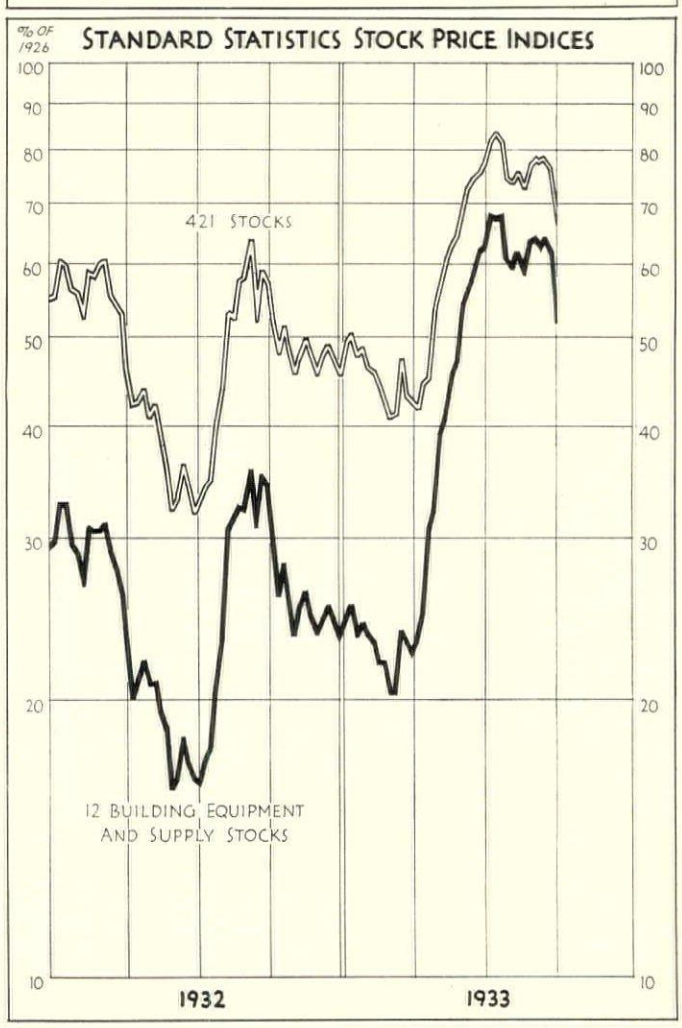

% OF 1926
BRICK AND TILE
100
90
80
70
60
50
40
CONCRETE BLOCKS
HOLLOW TILE
RED BRICK
1932
1933

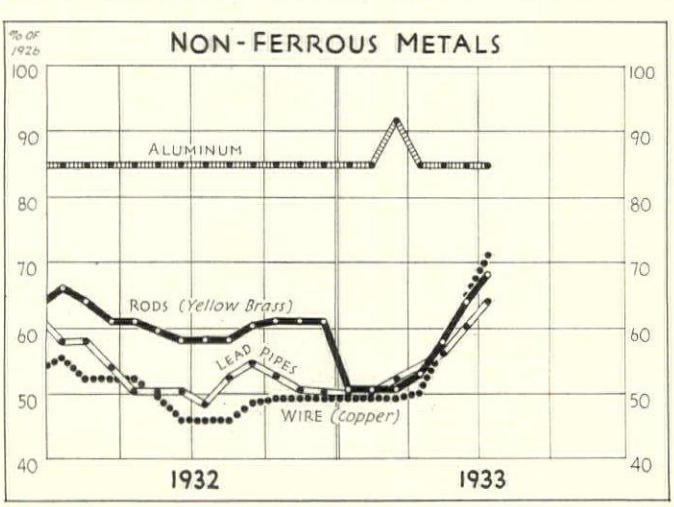

% OF 1926
PLUMBING AND HEATING
100
90
80
70
60
50
40
PLUMBING & HEATING
BOILERS
BATH TUBS
SINKS
1932
1933


% OF 1926
PAINT
100
90
80
70
60
50
40
ENAMEL
VARNISH
INSIDE FLAT
OUTSIDE WHITE
1932
1933


% OF 1926
OTHER BUILDING MATERIALS
120
110
100
90
80
70
60
PLASTER (per ton)
PLATE GLASS
GRAVEL
WALL BOARD
1932
1933


% OF 1926
HOUSE FURNISHING GOODS
100
90
80
70
60
50
40
LINOLEUM
FACTORY FURNITURE
WINDOW SHADES
FELT BASE RUGS
1932
1933


% OF 1926
STANDARD STATISTICS STOCK PRICE INDICES
100
90
80
70
60
50
40
30
20
10
421 STOCKS
12 BUILDING EQUIPMENT AND SUPPLY STOCKS
1932
1933

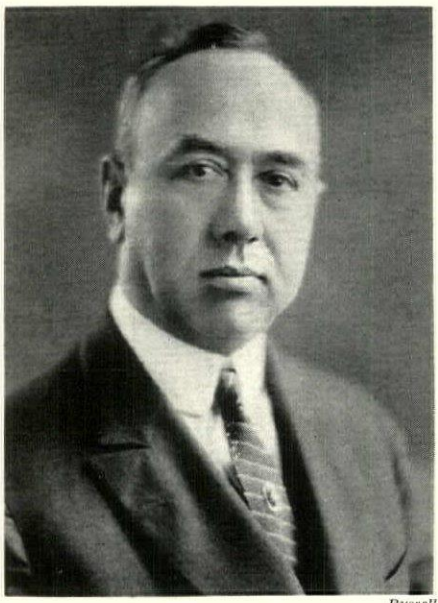

% OF 1926
NON-FERROUS METALS
100
90
80
70
60
50
40
ALUMINUM
RODS (Yellow Brass)
LEAD PIPES
WIRE (Copper)
1932
1933

FOUR STUMBLING BLOCKS

may still trip the construction code. The biggest disagreements revolve around the A. G. C.

On the 25th day of August the Construction League of the U.S. submitted to the N.R.A. a draft for a code for the building industry. This master code was to be supplemented by codes for five horizontal divisions within the industry: 1) architects; 2) engineers; 3) general contractors; 4) subcontractors with a separate code for each trade; 5) possibly some liaison control with the materials trades. While the preliminary details were in themselves a terrific problem, Deputy Administrator Malcolm Muir and his assistant Malcolm Pirnie knew that their troubles were just beginning when the code was submitted (The Architectural Forum, September).

On September 6 a full-day hearing was held on the code. More than 100 pages of testimony were taken but everything went smoothly barring objections on the part of genial but emphatic M. J. McDonough, representing the A. F. of L. At that time it seemed that nobody felt strong enough to voice definite objections to the code, although many were heard in off-the-record conversations and conferences. Likewise it should be noted that no arguments are allowed at hearings; the N.R.A. limits conversation as far as possible to pertinent presentation of facts for its own information. When the code is returned by the N.R.A.'s Policy and Research departments, which will probably be before the middle of October, there will be further hearings and conferences. At that time, it is expected that the objections to the code which have been growing increasingly strong will boil over. The chief stumbling blocks at present seem to be: 1) labor; 2) the clause governing the adjustment of material prices; 3) the provision that existing wage agreements shall continue to bind the parties to them; 4)the plan for supplemental codes.



Russell

Catalyst Rosenthal

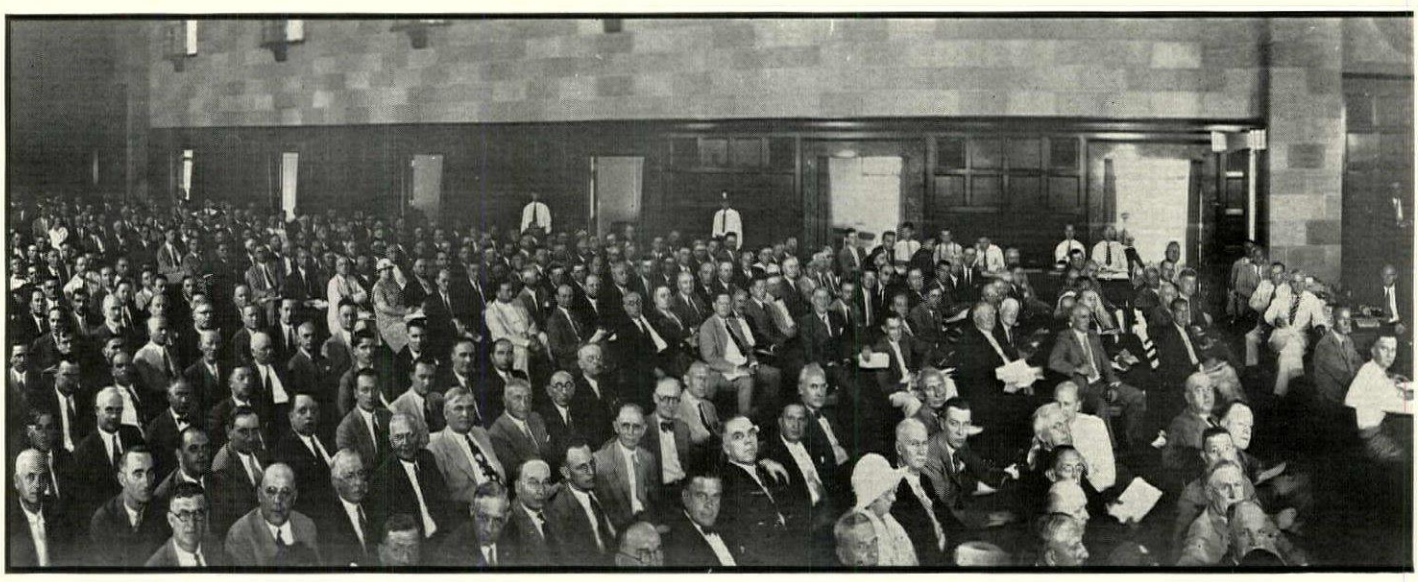
Labor's chief contention is that the wage rates set by the Public Works Administration should be written into the code. For unskilled labor these are 50 cents an hour in the northern zone; 45 cents for the central zone; 40 cents for the southern zone. Secretary Ickes has supported this contention at the hearings.

Serious doubts are still felt as to the feasibility of the statement that price adjustments shall be made for materials contracted for prior to June 16, 1933, but now costing more because of the vendors' having signed the reemployment agreement. The stipulation however is contingent upon all parties in the transaction participating in the price adjustment and this may mean that nothing will ever be done about the clause, even if it is included in the final code.

The wage agreement provision is that previous agreements will continue to be binding if such agreements designate wages not inconsistent with the code's provisions. Contractors who have agreements at above the code's minimums feel that this will give their competitors an unprecedented opportunity to underbid and still fly the blue eagle.

But biggest of the stumbling blocks is that which concerns the supplemental codes. There is disagreement over how the industry shall be divided and as to who shall lead the divisions. Of course the American Institute of Architects, the Associated General Contractors and the American Institute of Engineers, all members of the Construction League, have already acted on their final codes and are glad to assume the leadership of their fields by representing them. Likewise certain groups such as the Master Painters, Electrical Contractors, Marble Dealers, Cement Gun Contractors and others have acted on their codes. The chief arguments have been over the divisions of the contracting business.

First rumbling of contention came early in September at an A.G.C. hearing. Up jumped Oscar W. Rosenthal, dynamic president of the National Building Trades' Employers Association (and, also, of the Chicago A.G.C. Chapter and the Illinois



The construction industry in search of its code

Builders League). He brought the audience to its feet when he upset a drowsy afternoon by booming:

"Mr. Administrator, the one great service that you can perform is not to tell me that 17 men, forming a committee of an Association, or that 12 men or 11 men forming a committee of an Association shall be the controlling factor for the whole United States as to everything that is to be done with regard to building construction, highway construction, waterworks construction, sewer and road construction, and every other type of construction.

"Mr. Chairman, you have no more right to take building construction and throw it into that maelstrom than you have to say that a shoemaker and a furniture manufacturer belong in one organization because they both deal in leather, both use the needle and thread or because they both use nails."

The applause had hardly died down before Labor's McDonough said "We are curious to know the full intent of a second master code for the industry. We have already discussed the general code, which should provide for all minimum conditions of work. Now we are told this code is inadequate for the general contracting industry. . . . We are now confronted with the action of the A.G.C. who maintain that different types of general contractors are again to be coordinated by one general code. We believe that this procedure is undesirable and prejudices the case against labor. . . .

"We wish to recommend, Mr. Administrator, that you do not recognize this code and request that each of the subdivisions which are designated by the A.G.C. should present independent and separate codes."

Subsequent to this hearing, the National Association of Builders Exchanges, with 47 local organizations in 19 States advised the N.R.A. through Earl F. Stokes, its executive secretary, that it would view any classification of the construction industry with disfavor unless the building division had a separate code. Then, late in September, the American Road Building Association went on record for a separate code, saying that its problems were different and that it saw no reason why it should have to share in the high administration costs the complicated construction industry would be sure to run into. Likewise, home construction's code was demanded by the National Association of Real Estate Boards (see page 336). In Washington it was felt that these objections would be very likely to bring about separate codes for the chief divisions of building and that perhaps the National Building Trades Employers' code, submitted in August but never given much consideration, might soon be revamped and approved. But it was also felt that if the bickering continues and if by the end of October building has not its code or codes, General Johnson will use his authority to smooth the differences in his own manner.



Harris Ewing

A. F. of L.'s McDonough



Schutz

WITHOUT COMMENT

"A GROUP of public-minded St. Louisans have definite plans in mind for a fair to follow on the heels of a Century of Progress." Chicago correspondent of the Cincinnati *Enquirer*.

• • •

"It is dangerous to improve large and centrally situated properties with expensive improvements which will only create a greater supply where there is already too little demand. By building taxpayers, or altering the present improvements so that they will be attractive and up-to-date, and better able to stand the competition of newer buildings in the neighborhood without greatly increasing the supply of space, the institution will benefit itself with the least harm to the general situation. In some cases I know of, it was more advantageous to tear down the inadequate 10-, 12- and 14-story buildings . . . and put up taxpayers in their stead." *Francis K. Stevens*, vice president of Brown, Wheelock, Harris & Co., Inc., writing in the "Savings Bank Journal."

• • •

"In no industry more than in construction is there greater need for the elimination of that undesirable element variously known as ghost bidders, gypsy industry, sweatshops, shysters. For investments in construction work are huge, long-time and frequently in the nature of a trusteeship. . . . Because of the hitherto intensely individualistic nature of its membership, the construction industry has been too loosely knit to deal adequately with the conditions harmful to it and the public.

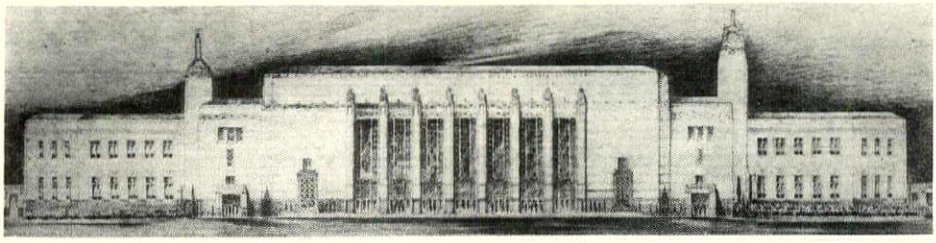
"Generally considered, the constructor has been a soldier of fortune. His abilities have been at the service of ever-changing patrons. . . The site of his activity never has been permanent. His relation with labor has never been on the intimate, continuing basis of the manufacturer. His business, subject to unusual hazards, has been regarded by banks as speculative. He owned no great plants, no basic patents. He unavoidably took great chances. And, all too frequently, he 'took the count.'" *George E. Rines, Jr.*, construction company accountant, suggesting in a letter to the N. Y. *Herald-Tribune* that the Public Works Administration employ capable, experienced contractors on a fixed-fee basis.

• • •

"I find the current situation in respect to the price picture of all building costs more uncertain than at any time in my recollection, and there is nothing in sight to indicate that stabilization is likely for a considerable time to come." *John W. Harris* of Hegeman-Harris Co., Inc. (builders of Rockefeller Center's RCA Building), who also advocated fixed fees for Government construction.

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"The ancient law that requires tax collectors to sell homes for taxes has this year caused the loss of more homes than all the mortgagee's sales and other real estate troubles. . . . Here in Massachusetts, more than 100,000 homes are advertised and taken. A vast number of these properties will never be redeemed. The owner, humiliated by the publicity . . . passes into the great army that is against the Government. . . . Unless a change in the law is made by some Legislature, the cities and towns will hold so much real estate that a new problem of serious proportions will have to be met." *Charles Henry Adams*, 74, in a letter to the Boston *Transcript*.



LOS ANGELES

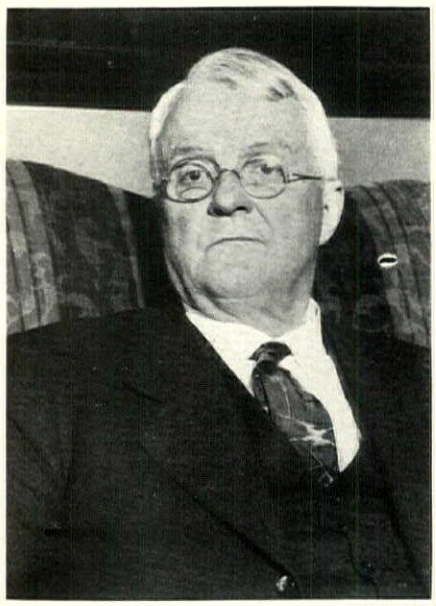
gets its union terminal. An editor scoops its picture.

MANY an architect in Los Angeles felt excited last month when, after 22 years of delays and fights, the three great railway systems which serve the city (Santa Fe, Southern Pacific, Union Pacific) agreed to construct a union terminal in the fast-growing Plaza area, where now rise the towering City Hall, the Hall of Justice, Hall of Records, Federal Building and the new State Building. The terminal itself will cost over $4,100,000 and will, of course, be one of 1934's outstanding architectural and construction plums.

Hardly had the fact been established that this great job was in the offing when the conservative Los Angeles *Times* published a page-wide picture of the proposed station. The caption under the sketch however was a little ambiguous and read: " . . . the first architectural study of the proposed $8,500,000 union terminal . . . is presented herewith. . . . The drawing is a composite of several designs and was made by C. K. Denman, local architect. Further modifications of the entrance exterior as shown in this sketch are possible, but the general plan will be adhered to. . . ."

Inquiry at the railroads' offices failed to reveal that Architect Denman or any other architect had been given the job. Gossip in architectural circles was that Harry Chandler, publisher of the *Times* and for years the station's staunchest booster, had been anxious to cap his editorial victory by being the first to publish a picture of the station — even a tentative design. Hence the appearance of the sketch which Mr. Denman had shown to the Southern Pacific, and the appearance of which made the Union Pacific and the Santa Fe exceedingly irritated. Other architects took heart, heard hopefully that the railroads planned to have their own architects work on a design in collaboration with an architectural board of review to include the best men in Los Angeles architecture.

Consent of the railways to go ahead with the station at the Plaza site came suddenly after Mayor Frank L. Shaw promised that the city would contribute $1,000,000 to the cost. This money would be garnered from the city's share of the gasoline tax and involves no new assessments or bond issues. Previously the railways had felt first of all that they did not wish to build a union station and that if they did build one it should be on the North Broadway area where the S. P. has extensive trackage rights. The long battle over the question went twice before the U. S. Supreme Court, twice before the I.C.C., twice before the California Railway Commission, twice before the California Supreme Court and once before the Supreme Court of the District of Columbia.



International

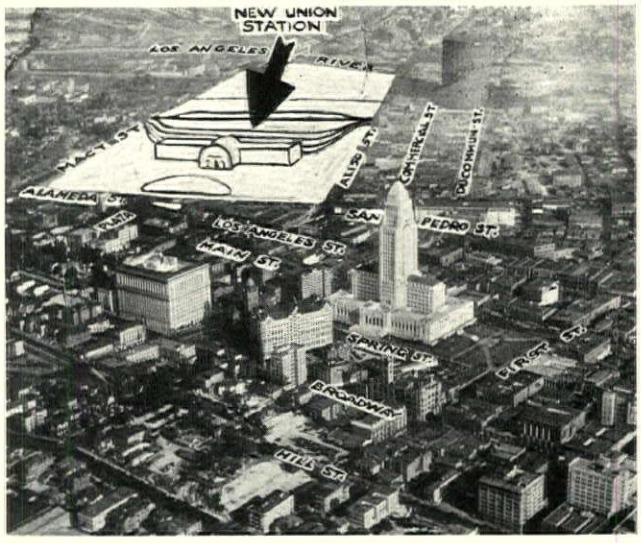
Publisher Chandler

Through a technicality, the S.P. could not agree to be a party to last month's consent although it was made plain that a mandate would be cheerfully obeyed. The reason for this was simple. When some 60 years ago the S.P. acquired the deed to the site of its present station (which the U.P. shares) it was agreed that if the land were ever voluntarily withdrawn from use as a station it would revert to its original owners. Last month the 20 heirs of the original owner were eagerly awaiting a test of what is voluntary so they could sue for these 15 acres of choice Los Angeles land.

The Southern Pacific will stand 44 per cent of the cost, the Union Pacific 23 per cent and the Santa Fe 33 per cent. The station will take 45 acres, of which the terminal proper will occupy 30. The land is now chiefly owned by the S.P. and no difficulty is expected in obtaining title to the plots still held by 60 individuals. The land is near what was once the original site of Los Angeles, although for many years it has been the center of a fast-fading Chinatown. It was because of the site's historical value and its proximity to the civic center that Publisher Chandler fought so hard for it. Son-in-law of General Otis, famed Southern California pioneer, Mr. Chandler is an astute real estate operator and a large landholder. His *Times*' building is but a few blocks from the station's site. But his civic sincerity is so well known that there has been no question of his wanting the station in the Plaza area for selfish motives.

Sixteen tracks will enter the terminal, which will at first be of the stub-end type. The 1,300-ft. entrance along Alameda Street will be reached through a wide parkway with space for 500 automobiles. Much attention will be given to landscaping so arriving tourists will have an immediate impression of Southern Californian floral beauties. Of the $1,000,000 which the city is contributing, $640,000 will be used for the construction of three viaducts to carry the tracks over the street, and the railways will contribute $500,000 for the same purpose. The rest of the city's money will be used to widen, pave and move other streets. Part of this work will consist of tunneling two streets under the station.

After waiting 22 years for its union terminal, Los Angeles is anxious to have it and use it. It is confidently expected that work can begin within six months at the latest.



A Los Angeles newspaper shows its readers where the new $10,000,000 station will be. Los Angeles likes to say it has no slums but the buildings the terminal will supplant strike few people as picturesque, many as dirty and squalid.

H. O. L. C. 4s, '51

and some of the factors which will play a part in determining their price.

THE success of the Home Owners Loan Corp. obviously is contingent upon the price of its bonds.* Likewise, a serious decline in these bonds would in all probability produce a sympathetic decline in the Federal Land Bank bonds and would place great difficulties in the way of the successful marketing of the Agricultural Credit Administration bonds.

On the dark side of the picture many reasons can be cited as to why the H.O.L.C. bonds, with interest but not principal guaranteed by the U. S., should not be worth par. The corporation can lend up to 80 per cent of a property's appraised value and the appraisal methods presume rather largely upon a return to average conditions of recent years rather than insisting upon the present reality. Likewise the $200,000,000 R.F.C.-supplied capital of the H.O.L.C. is but a 10 per cent margin of safety over its $2,000,000,000 lending power and a good deal of its cash capital will probably be used to pay taxes and make improvements in conjunction with accepting mortgages. The first sale of H.O.L.C. bonds was at 85. Trading was thereupon suspended, supposedly at the H.O.L.C.'s request. Its representatives went into conference with Wall Street specialists in Government bonds. An official prospectus on the H.O.L.C. bonds then appeared and was widely circulated among financial institutions. The prospectus revealed that the Treasury Department would accept the bonds at par as collateral against the deposit of public moneys and that they might, for the time being, be carried at par by national banks. The Postal Savings System, it was revealed, would also accept them at par against deposits and the R.F.C. would lend 80 per cent against them. When trading was resumed the bonds were at 92.

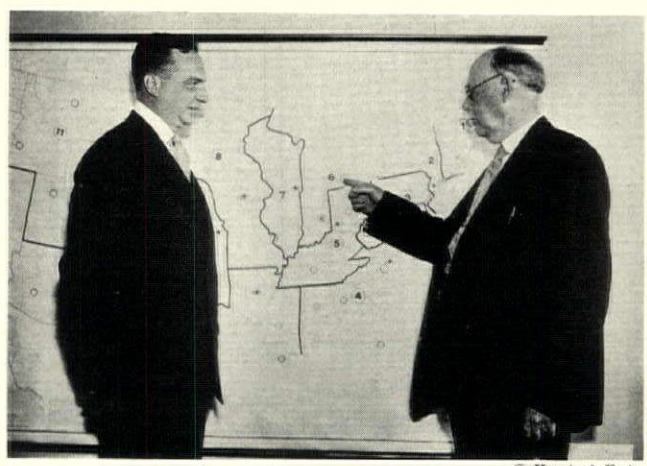
There are two ways in which the corporation can keep its bonds up in the market: encouraging the purchase of them and discouraging the sale of them. It is an open secret that a committee composed of one senior executive of each of the following institutions is vitally interested in the state of the market for these bonds: the Treasury, the Agricultural Credit Administration, the H.O.L.C., the Federal Reserve Board, the R.F.C. and the Federal Reserve Bank of N. Y.

First of all the H.O.L.C. itself may buy its bonds at any time with its capital funds, with its excess earnings, or with the funds received from the paying off of the mortgages it holds, or even with money borrowed for the purpose. Secondly, persons whose mortgages the H.O.L.C. holds can pay off these mortgages or pay interest with H.O.L.C. bonds at par, regardless of their market price. This would indicate that every dollar's worth of money paid back to the H.O.L.C. means a dollar's worth of bonds snapped out of the market. In addition there is the Thomas (inflation) amendment which gives the President authority to direct the Secretary of the Treasury to enter into agreements with the Federal Reserve to purchase bonds of which the U. S. is the chief stockholder. If other means of supporting the bonds fail, it would seem that this would surely be used, especially as the recent policy of the Federal Reserve has been to step up its open market purchases of Governments.

These are the chief methods of maintaining the market by purchases. At first sight it would seem that the financial institutions holding the bonds would sell them as soon as received, fearful of a dropping market. Last month however it became known that the H.O.L.C. was considering entering into a three-way agreement with large holders of mortgages and home owners. This would provide that the institutions which accepted the bonds would have the right to trade them back for the original mortgages within a three-year period. They would thus receive paper with a high collateral value instead of paper with little collateral value at no sacrifice except that of immediate foreclosure. Such an arrangement would be particularly beneficial if the institutions agreed that during the period they would not sell the bonds except at a fixed minimum price. Last month it was impossible to obtain direct evidence of such an agreement having been made, but several high sources were of the opinion that some institutions which have accepted H.O.L.C. bonds entered into a gentleman's agreement not to sell them after receiving assurance that the market would be maintained. Reports that some home owners were paying the discount on the bonds out of their own pockets reached Washington last month and were accepted as further evidence of the need of keeping the bonds near their parity.

H.O.L.C. Chairman William Francis Stevenson is a kindly old gentleman who understands politics and rural problems. Last month he buttressed his H.O.L.C. with two Wall Street-trained minds. He appointed James Bruce of Baltimore financial adviser and George M. Lindsay of New York as fiscal agent. Mr. Bruce is 41, a mighty hunter of ducks and a banker. He is the son of former Senator William Cabell Bruce and brother of David K. Este Bruce, Andrew W. Mellon's son-in-law. He resigned as vice president of Baltimore Trust when he was considered one of the most brilliant young men in the city and went to New York. There he worked in the International Acceptance Bank under the wise and revered Paul Warburg. He then became vice president of National Park Bank, kept the title when it was absorbed by Chase. In 1931 he left Chase to become president of Baltimore Trust (now on a liquidating basis). Mr. Lindsay is a veteran investment banker. He was vice president and director of Blair & Co. and later Bancamerica-Blair Corp. Last winter he was special R.F.C. adviser on self-liquidating loans. He is widely known among investment bankers and, together with Banker Bruce, should be able to keep up the campaign which the H.O.L.C. has started to drum up the bonds as good investments.

Last month some doubters were still heard on the H.O.L.C. question. But, understanding the importance of its success and the means available to making it a success, it would seem that the H.O.L.C. will save homes as it intended. How many homes, how many dollars worth of homes, homes where, is any man's guess. But every home saved is one more home off the market, one more home in good repair, and one more home owner willing to use his income for purchasing the products of the nation.



Chairman Stevenson, known to Capitol Hill as "Seaboard Bill," points to Michigan, the trouble spot on the H.O.L.C. map. On the left is James Bruce, bankless banker, now financial adviser to the H.O.L.C.

© Harris & Ewing

* The H.O.L.C.'s background and machinery was described in the July ARCHITECTURAL FORUM. Its first workings and reception were reported last month.

BUILDING AND LOAN MEN

convene in Chicago. Notes on some of the speeches. A Home Loan Bank prediction from Chairman Stevens.

To CHICAGO, which ranks behind 80 other cities in home ownership, last month went some 1,500 building and loan men to attend the 41st annual convention of their U. S. Building and Loan League. All the meetings were crowded, not only because the convention happened to coincide with Chicago's first prolonged bad weather this summer but because building and loan men today have much to concern them.

The League has over 10,000 member associations. Ten million people have entrusted their funds to these associations. Even last year home-buyers were able to obtain $530,000,000 from building and loan associations and at the convention it was estimated that more than two billion dollars was withdrawn last year by people who had nothing between them and complete distress except their building and loan funds.

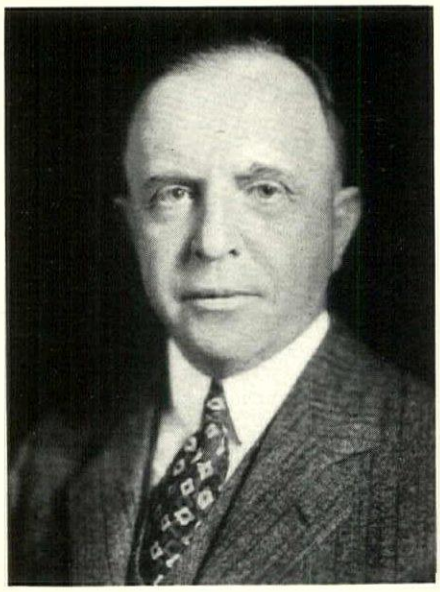
Prime convention talk topics were the Home Owners Relief Corp. and the Federal Home Loan Bank System. A principal speaker on these subjects was of course William Francis Stevens, chairman of both institutions. He predicted that within ten years members of the Home Loan Bank System will hold $15,000,000,000 of the $20,000,000,000 worth of home mortgages. At present building and loan associations hold $6,500,000 worth and savings banks, which are eligible for membership, have another $3,500,000 worth. "Other institutions . . . " said Mr. Stevens, "are rapidly retiring from the field, and it takes no prophet to see that within a few years the loans . . . will be confined to institutions which will be either actual or potential members of the Home Loan Bank System.

"The system has grown so quietly that little attention has been paid to it, but its loans actually paid out to its members are now over $60,000,000, in contrast to about $10,000,000 when this program was started."

Chairman Stevens also spoke of the federal savings and loan which are provided for under the terms of the Home Owners Loan Act and assured members that these associations "are not to be established for the benefit of promoters."

Other speeches included: U. S. Senator *David Ignatius Walsh*, himself a building and loan man confined his remarks to a League back-patting by saying it was the forerunner of the Home Loan Bank System and to urging N.R.A. support.

Mop-haired Dr. *Virgil Jordan*, president of the National Industrial Conference Board, made Leaguers sit up by saying "The whole Administration program . . . is forcing the Government into more and more socialistic schemes, the investment of public funds into railroads and banks, even including investments in home construction." He condemned the Administration's program as being opposed to the stimulation of thrift and putting all emphasis upon spending.



Building & Loan's Third of Line

Morton Bodfish, the League's executive secretary said "Every institution handling the money of anybody . . . must be reconciled to the idea that it will be regulated, controlled and supervised far beyond anything that has existed in its past." He suggested a $500,000 building and loan advertising campaign.

A. D. Theobold, director of Education and Research for the American Savings, Building and Loan Institute (League's educational affiliate) said that "financial institutions which have been worried for four years about getting enough money to make loans will be more concerned two years from now about getting enough loans to keep their money busy. . . . There are millions of homes to be built, modernized, and purchased as soon as the owners or would-be owners are sure of their jobs."

Pre-Fabs. The appraisal division got excited about prefabricated homes. J. Harold Hawkins, associate editor of the *Ladies Home Journal*, said that prefabrication will slice the values of old homes in half. Another member said that the League should not approve of prefabrication since so many of its members work in the building trade. Sentiment seemed almost unanimous against prefabrication.

Recommended. The economic policies committee recommended that: home purchasers should not contract to pay more than 30 per cent of the family's income for shelter . . . home purchasers should be discouraged by buying speculative subdivision lots . . . should not buy homes with a down payment of less than 25 per cent . . . State laws should be passed making Home Loan Bank membership mandatory . . . Federal associations should be fostered in every community where there are building and loan assets of less than $25 per capita . . . operations of the H.O.L.C. should be restricted to distress cases. . . .

Elected. Vice president Philip Lieber of Shreveport moved into the official shoes of retiring president Whitlock; his shoes in turn were filled by erstwhile second vice president I. Friedlander of Houston; who was succeeded by Le Grand W. Pellet of Newburgh, Pa. As it has done for 38 years, the convention elected Herman F. Cellarius of Cincinnati to be secretary-treasurer.

Realization. Evident at the convention was a growing realization that homes soundly designed and soundly built have a surer collateral value. Many a British loan society is so convinced of this that it retains an architect to pass upon all plans. Second Vice President Pellet, who will be elected president in 1935, is a firm believer in City Planning. New President Leiber feels that building and loan societies should pay more attention to style, should "insist on good construction, guaranteed by careful supervision during the process of work."

CONFUSION RETARDS

the real estate codes. What the NAREB proposes.

As in the construction industry (see page 332), there was argument last month in the various branches of real estate as to who should lead their codification. J. W. Cree, Jr., of Pittsburgh, chairman of the code committee of the many-membered National Association of Real Estate Boards, felt that since NAREB members indulge in all the activities of real estate, that body should file a general code for real estate and these supplemental codes: 1) Real estate and insurance brokerage; 2) Real estate and building management; 3) Real estate mortgage financing; 4) Land development and home building; 5) Real estate appraising. Little doubt existed as to the NAREB's right to formulate codes on brokerage and appraising, but other associations stood ready to argue on the other supplemental codes. The Mortgage Bankers Association submitted their own code, as did the National Association of Building Owners and Managers and the National Association of Apartment House Owners. And the NAREB's desire to include home building brought protests from contractors and from the Construction League.

Management. First to begin work on a management code was the National Association of Building Owners and Managers, which represents 82½ per cent of the office building space of the land and between 25 and 35 per cent of apartment building space. Leading light in its code activities has been

its suave new president, Frank S. Slosson, veteran real estate man and partner of John P. Hooker, one-time president of the Chicago Real Estate Board. The first NAREB code was very inclusive and was said to include provisions which would do much to stabilize real estate, but this was discarded for a simpler code.

The office and loft sections received temporary approval but the apartment house code was held up because it asked for a maximum week of 60 hrs., greater than any hitherto granted. The NAREB code has a 54-hr. maximum week but provides that "Apartment house employes . . . whose duties are such that they cannot work consecutive hours . . . shall not be subject to any maximum hours limitation but shall have their present wages increased by not less than 20 per cent, provided that this shall not require wages in excess of the minimum." In submitting its management code the NAREB took a slam at the NABOM right to lead by saying that provisions for this type of employe in small walk-up apartments were "not originally included in the apartment house code of the National Association of Building Owners and Managers probably due to the fact that most of the buildings represented by that organization are of the fireproof elevator type. . . . Many of these buildings are located in New York and a few other large cities."

Last month the NRA's real estate experts were still trying to decide which of the three codes for apartment houses should be selected for analysis and hearings, and whether or not the NAREB had title to an office and industrial building code.

Home Building. "Inasmuch as the Home Building Business has always been largely composed of small business units and never conformed and cannot now conform to the standards of cost which are common for the construction industry, it is believed that the inclusion of the Home Building Business under any code other than one including its allied business, the development of the site, will not only tend to oppress and destroy the business of those now constituting it, but will place further and undesirable obstacles in the path of home ownership." Thus did the NAREB argue that home construction should form part of a supplemental code under its ægis. In opposition stood the Construction League and the Residential Contractors Association. The NAREB code provided a 40-hr., $16 week for home building employes for cities over 500,000 and a sliding scale to $14.80 for towns of under 2,500. In towns of under 2,500 it was suggested that a 20 per cent raise would be sufficient if prevalent wages have been more than 20 per cent under $14.80. One of the chief reasons why the NAREB wants home building under its code is that it fears that if it is under the Construction Code its labor will be unionized and home prices boosted.

✚ In addition to pressing for its code, last month the NAREB sought two other aids for home building. One was that the Federal Securities Act covering mortgages be simplified and clarified and no attempt made to supervise and regulate the ordinary small home mortgage. The other was a



Moffett-Russell

N.A.B.O.M.'s Slosson

request for direct Federal loans to qualified people building homes. The memorandum suggesting this said ". . . we believe that the real estate market will absorb from ten to fifteen thousand low priced and moderate priced homes throughout the country during the coming Winter and Spring season. . . . Use of public credit is necessary."

The NAREB suggested 14 conditions for the loans. Among them: "Loans (up to 15 years) only to builders of good standing . . . homes to be sold by builders who can show actual market . . . improvement to be worth two and one-half times site . . . sites (of not over $2,000 in final sales price, of no less than 5,000 sq. ft. and 40-ft. frontage) preferred where contiguous and part of a plan and where home owners are organized for architectural control et al."

✚ To NRA's Dr. Alexander Sachs last month went a modest note from NAREB's Secretary Herbert U. Nelson outlining "a type of legal device needed to open economically the rebuilding of American cities." The device would be provision for incorporation of "home district" companies upon application of a majority of property-owning citizens in any area of not less than 20 acres. Every home districter would become a lessor and not an owner, exchanging title to his property for his company's second lien bonds. First lien bonds would be sold to bring in money for district-wide improvements, be handed mortgagees in return for their present mortgages. With the power of eminent domain the company would be set to "instrument the central idea of modern home planning, the idea that the home must be designed as part of a neighborhood."

A SIAMESE TWIN

operation is being performed on North La Salle Street.

CHICAGO'S North La Salle Street last month again heard the ripping and pounding of a wrecker's crew. But this time the noise did not mean that another tall old Loop building was being demolished in order to escape taxes. The wreckers were attacking the four-story building which for almost five years has joined the Marshall Field Estate's Conway Building and the Foreman Bank Building.

In 1928 an agreement was made between the Field Estate and the Foreman interests whereby they were given the right to construct a portion of their new building to a height of four stories over Exchange Place, a 30-ft. alley extending the depth of both buildings. In addition, the bank leased some 26,000 sq. ft. of space in the Conway Building's first four floors for 50 yrs. at an annual rental of $131,160.

In June, 1931, the Foreman-State National Bank closed. Since then its banking rooms have been vacant and no rental has been paid for the space occupied in the Conway Building. In addition, since late in 1932 interest payments on the $5,000,000 first mortgage given the Foreman Building in 1929 by Northwestern Mutual Life have been in arrears. The rebuilding plan goes hand in hand with a financial reorganization of the Foreman Building. Northwestern extends the mortgage for a short time from its 1934 maturity and is advancing another $1,500,000 at 3 per cent to pay for the current improvements and operating expenses. Likewise, a new company has been formed to own the Foreman Building and Northwestern has a controlling interest in this company although it is under option to the Foreman interests during the life of the mortgage.

A new tenant for the Foreman Building has been found in the American National Bank and Trust Co., formerly Straus National. This bank will take space in the 2nd, 3rd, 4th and 5th floors of the building, leaving the first floor for shops. That portion of the bank building which occupied the east 10-ft. of Exchange Place will be replaced by arcade shop fronts with bright walls, a permanent canopy above the first floor, and entrances to the shops from both buildings. The former banking space on the first floor of the Foreman Building will be converted into shops.

Two noted Chicago architectural firms share in the work thus created. Graham, Anderson, Probst & White are doing the Field Estate's portion of the work and Holabird & Root are architects for the Foreman interests. Estimates of the total cost vary between $300,000 and $450,000. The George A. Fuller Co. is doing the contracting work for both buildings.



SOME DINOSAUR EGGS

which failed to hatch. A roll call of the Nation's unbuilt skyscrapers, quick and dead.

PROBABLY every city has a forgotten skyscraper. A few years ago newspapers ran sketches of it and front page stories boasted of its dimensions. But somehow or other it never got built.

Theoretically, where depression alone has halted a project and an unbuilt skyscraper awaits but the magic of cash and a demand for space, the advent of business recovery should cause the scheme to stir once more. What were these plans of 1925 to 1930? They were bold and mighty and naïve, and some of them were created for publicity alone. But they channeled courses for great rivers of building money.

What will country-wide recovery mean to yesteryear's plans? The answer to this question still lies deep within each single project. Any attempt to forecast a future for them must take into account the forces which stopped them in their tracks. Herewith are many unresolved plans for U. S. skyscrapers. Some of them, blessed by fortunate circumstance, might yet be acted upon. Others are cold dead as they should be. While they may not all prove to be telling examples, they are of historical interest where they fail to augur. Each of them was once front page stuff and part of a scene in which financial havoc was wrought for the building industry.

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The home of the most stupendous unrealized skyscraper is Chicago. On Randolph Street east of Michigan, over the tracks of the Illinois Central Railroad Co., was to have been (may yet be) the enormous Chicago Apparel Mart, the big haunches of which would have sat importantly in the Illinois Central development on Chicago's artificial lakefront.

The Illinois Central air rights development has long been an entity on Chicago real estate maps, but for many good reasons development has never actually taken place. Had city officials ever sanctioned finishing the famed Outer Drive, of which every Chicago citizen is now genteelly proud, the section (which is over half as large as the Loop) might long ago have opened up, and the Chicago Apparel Mart, first unit in the development, might have been three years old today.

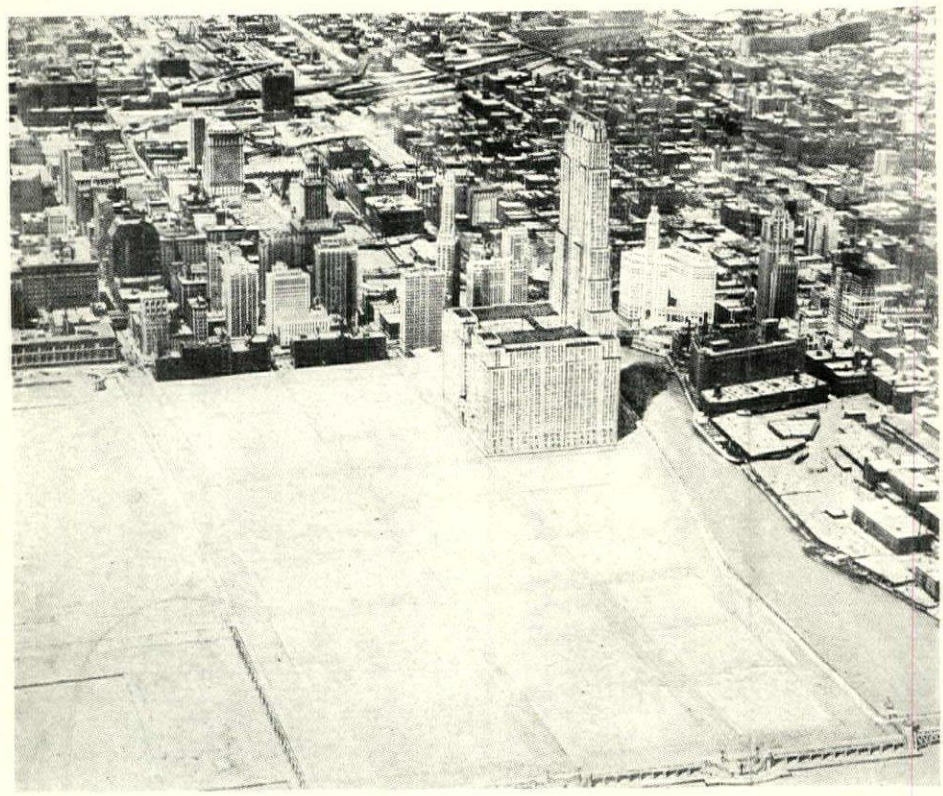
Late month before last in its campaign to oust World's Fair Mayor Edward J. Kelly the Chicago *Herald and Examiner* cited as an example of the former South Park Board president's handiwork the unfinished link bridge, which by connecting the "made" banks of the Chicago River at its "made" mouth (located in lower right-hand corner of large illustration) becomes the keystone of the whole Outer Drive system. In 1926 voters approved a $5,000,000 bond issue which was to have completed the bridge. Work was started on the approaches in 1931, held up when it was considered necessary that the funds be spent on something else.

Loop and North Michigan Avenue property holders, who might seem to fear the effect of the development, cannot be blamed for the delay, which is simply part of the city's financial muddle. Flagshipped by the Apparel Mart, a dozen buildings await Chicago's tardy lakefront boom.

The Apparel Mart was introduced to the public June 17, 1928. ' Permit me to congratulate you," said Banker William Ruggles Dawes, president of Chicago's Association of Commerce. "We heartily endorse this project. We feel that the centralization of the apparel industry in Chicago and the erection of the magnificent building which you propose to construct on the premises will be of benefit to the entire apparel industry and to the city of Chicago." Napoleon Picard, successful in promoting the Insurance Exchange years earlier, was president of the building corporation. Architect Walter Ahlschlager was vice president and chairman of a board of directors which included F. G. Peabody (of shirt-making Cluett-Peabody & Co.), Emil Altman (Mallory hats) and George Rutledge (Vassar underwear).

The Apparel Mart was a stupendous project because it was not only an apparel mart. "Combined under one roof," said a circular issued in 1929 by the C. F. Noyes National Realty Corp. (which had concluded leases aggregating $1,800,000 in rentals when the plans for the building were made public) "will be: (1) the Apparel Mart of 1,818,168 sq. ft., (2) the Chicago Tower Class A [*sic.*] office building of 804,556 sq. ft., (3) the Chicago Tower Hotel of 253,440 sq. ft., (4) the Mechanical Garage of 158,940 sq. ft., (5) the two private clubs of 85,000 sq. ft., (6) the ground floor shops of 85,900 sq. ft., (7) the convention hall (seating 4,500 people) of 78,600 sq. ft., (8) the basement mart of 118,000 sq. ft., and (9) the exhibition halls of 236,500 sq. ft."

The copy-writer found it difficult to know whether he should stress the 75-story tower (to have been Chicago's highest) or



Room for a boom in Chicago. Front and center: the proposed Apparel Mart

the building's immense hind end. Of course, said the first announcement, "the Eiffel Tower somewhat exceeds the Chicago tower in height and the Pyramid of Cheops in bulk, but needless to say, neither of these structures offers any of the all-embracing types of space here available."

Unquestionably ingenious, the $45,000,000 plan had several sets of backers, several false starts. The Illinois Central development appeared near and reasonable as it does today. The link bridge on the lakefront boulevard was being built. On one sally the building appeared 1,022 ft. high and enabled the management to announce that the Eiffel Tower would be outdone by 35 ft. Thus planned, the building was called Crane Tower, and it obtained its air rights



International

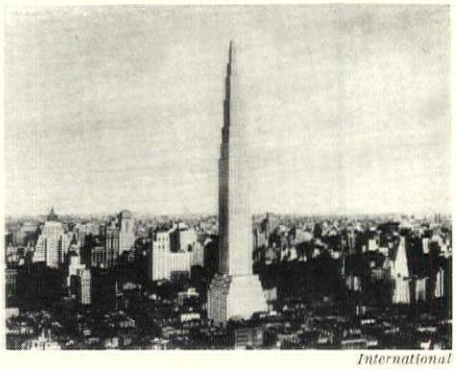
Chicago's link bridge

from the Illinois Central Railroad which would have occupied the building from the fourth to the eighth floor. The first and second floors were designed to display Crane Co. plumbingware. Financing included a first mortgage leasehold bond flotation of $18,000,000, a $7,000,000 first preferred stock issue and an offering of a million shares of common stock.

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Architects' shelves by no means harbor all the unresolved plans in the world. There is a sketch of an unbuilt skyscraper chucked away in the space back of the personal file of many a company property manager. But such are often very live germs. Plans which have made their way to a municipal building department might seem even nearer fulfillment, but there is the case of the tallest unrealized skyscraper on record to make that doubtworthy. New York City's prompt approval of the plans for the 108-story Larkin building (1926) might have sped its financing to completion. No structure of today goes even 100 stories skyward, and the Larkin Building, which had the whole New York real estate world on edge in its day, might have set an astounding standard. The plan's backers tell this story:

"During the period from 1922 to 1925 we assembled a large plot fronting 223 ft. on West 41st and 250 ft. on West 42nd Streets near Eighth Avenue, a total of about 47,000 sq. ft. We designed a 108-story building, 1,208 ft. in height, and filed plans with the Building Department on December 17, 1926. The design represented the various setback limits and heights allowed by the zoning law for this particular site. The plans were approved June 9, 1927, subject to reservations as to stand-pipe installation. The unusual height found the existing standpipe regulations inadequate. More than a year passed before the municipal authorities passed new regulations covering buildings over 1,000 ft. in height so that the



International

108 Stories (New York)

plans could be finally approved. . . . The time of filing of the plans seemed to coincide with a general raising of prices on practically everything that goes into building construction. During the three ensuing years, up to August, 1929, we were never able to get fixed costs on over 50 per cent of the various items on any set date. Hence our estimates were being constantly revised upward. Under such conditions it was impractical to go ahead and impossible to complete financing arrangements, expensive at any time."

This apparently premature plan was, nevertheless, historically significant. It was a first contender that high-priced land is no pre-requisite to success. The ground assembled for the Larkin building was quite radically located in what was considered an out-of-the-way place, and this was undoubtedly a prime objection to the plan at the time. But in 1931 the site was sold to the McGraw-Hill Publishing Co. and the famed 35-story sea green building which Raymond Hood designed for that organization is today well rented, and it has proved that location in built-up districts, where land is costly, is not a first necessity. In New York last month a beer garden was opened in front of Grand Central station on the plot from which the ancient Belmont Hotel was removed in 1931 to make way for a 60-story office building for which plans had been drawn and publicized, and land-wise persons were certain that it signalized a due revision of values in like centers everywhere.

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Citizens of New York and Chicago are naturally dispassionate about the loss of a building once promised them. Skyscrapersated New York is not notably perturbed by the fact that Amos Parrish has not built his multicolored Fashion Building; and the skyscraper apartments of Downtown Homes, Inc., do not yet shadow Battery Park, but they one day may; and meanwhile the populace is sufficiently amused with the array of skyscrapers it already has to look upon. But elsewhere it is different; a big building planned and motivated is of civic account, and the unbuilt building is a public shame.

A survey of shamefaced cities undoubtedly would include:

Los Angeles, where on swank Wilshire Boulevard a weather-beaten board fence still bears a description of the South California Athletic Club which many citizens subscribed four years ago. But the club has yet to be built. As does the half million dollar hotel which Evangelist Aimee Semple McPherson would have erected.

Louisville, where a big Medical Arts Building has failed to appear.

Cleveland, whose citizens are naturally pleased with the nice buildings which the Van Sweringens have brought to completion, but are not proud of the second highest thing in the city, their Town and Country Club. For two years it has stood practically complete but unoccupied.

San Francisco, patiently awaiting a much-discussed 20-story Radio-Television Building.

Philadelphia, which is minus one of the world's most pretentious railroad stations. Proposed by the Baltimore & Ohio in 1927, the project hinged on the willingness of the city to provide opposite the station a plaza which would have cost $1,500,000. Thi



Bernard Hoffman

This is the "Belmont Bar"

which is betting heavily that it will be able to sell more than beer this Winter. Seven feet longer than that of the famed American Club in Shanghai, down which some men declare they have seen the curvature of the earth, the bar in the building to the right is the world's most lengthy. The large sunken beer garden with its green and orange umbrellas and rustic furniture occupies one of New York's most important properties, the site of the old Belmont Hotel, which is said to have cost William Zeigler, Jr., $5,000,000 in 1931.

taxpayers were emphatically unwilling to do. Again in Philadelphia citizens and a railroad squabbled when the Pennsylvania's tracks became an apparently insurmountable barrier to the $80,000,000 and seven-block-long Civic and Allied Art Center project, which Philadelphia still has on its calendar.

Oklahoma City, with the skeleton of the Skirvin Tower in the center of it. Mr. W. B. Skirvin is an oil man who owns one of Oklahoma City's largest hotels. In the summer of 1930 it occurred to him that his hotel was not large enough. Across the street from it he planned to build the 36-story Skirvin Tower. A tunnel would extend under Oklahoma City's Broadway to connect the two Skirvin edifices. This project, like Cleveland's Town and Country Club, was quite well on its way to completion when it came to a halt.



Oklahoma City

But while both Cleveland and Oklahoma City may be temporarily embarrassed, there is no reason for saying their citizens shall not eventually see these buildings finished and put to use.

Minneapolis, however, has an unfinished structure which may remain just that. In 1926 it cost 1,500 persons $200 apiece to join the Calhoun Beach Club, and many of this number by buying stock helped build the magnificent shell which now stands useless near a Minneapolis lake. On the club's board of governors were Alexander G. "Buzz" Bainbridge, showman and present mayor of Minneapolis; Wilford H. "Captain Billy" Fawcett, sportsman and publisher of bawdy *Whiz Bang;* Levi M. Hall, a district judge; and George E. Leach, four times his city's mayor and prominent National Guardsman (whose clubs in *Who's Who* do not include Calhoun Beach).

With $300,000 realized from the sale of memberships and about $400,000 from an $850,000 bond issue sold in Chicago, the building was begun in 1928, material men accepting second mortgage bonds. By mid-1929 the scheme was in deep water. Funds from the bond sales came too slowly, delaying payments to contractors, hindering construction, which in turn interfered with new sales. Compromise wrote off some claims, permitted a new start. But a court battle soon developed between the promoters and lienholders, and the creditors won a building just $300,000 short of completion. Part of the melee was gruff Chicago Attorney Clarence Darrow's $10,000 suit for services. During the summer of 1933 the Calhoun Beach Club, still gaping vacantly at all Minneapolis, had a hamburger and soft drink stand at its doorstep.

Miami became the home of Bavarian-born Joachim Fritz in 1897. He made $1 a day as a trapper's assistant in the Everglades. He then started a small dairy which grew to be one of the city's largest. He became independently wealthy, owned 1,500 acres of land.

Then he started the Fritz Hotel in 1925. Miami was booming so that the railway declared an embargo on all but perishables. The Fritz Hotel Co. chartered its own ships, adding to the cost of construction. The hotel has 375 rooms, each with a bath. The center tower is ten stories high and there are two big sections six stories high. A 15-ft. porch, exactly half a mile long, surrounds the entire structure. In 1926, after about $1,000,000 had been spent and the hotel was 80 per cent completed, Miami's boom stopped and so did the Fritz Hotel.

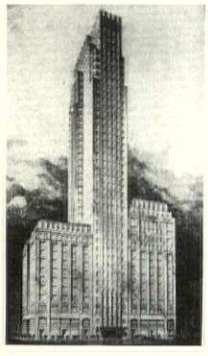
Believe It or Not Ripley has unearthed the fact that the $1,000,000 Fritz Hotel is now an eggery. The business is being run by Maurice Harrison of the Harrison Construction Co. and although only one floor is now occupied by hens the business is growing so rapidly that eventually the whole hotel may be used. The egg cartons bear a picture of the Fritz Hotel in all its glory with the legend "White House Egg Factory."

Also in Miami is the 15-story Roosevelt Hotel, the first floor of which last month became a fruit and vegetable market.

St. Louis almost had a skyscraper which, towering 484 ft., would have been 100 ft. higher than its nearest competitor. It was to have risen between the 11-story Federal Commerce Trust Building and the 16-story Bank of Commerce Trust Building and to make the group of three as one, which could have easily been done since both the other buildings were planned with an eye to ultimate integration.

The site was owned by a big bank which had moved. In the Spring of 1931 a group of promoters obtained an option on it. They included Architects A. B. Boyer and Harris Armstrong. The proposed building would have cost about $2,500,000, as would the site.

First negotiations with some Pittsburgh interests broke down. The option was renewed when into the picture stalked Machir J. Dorsey of Hammond, Ind., who controlled a string of insurance companies. He had some Chicago mortgages which could not have been converted into cash at their face value at that time. He offered $2,500,000 worth of mortgages for the site if the bank would lend $1,250,000 in it. He planned, it was said, to use the money to consolidate his structure's financial position and then to repay the loan at about $100,000 a month. At the end of the time he planned to have one of his insurance companies build its home office on the site (using twelve of the floors). For this purpose the company planned to borrow and representatives of a New York life insurance company were already looking over the site. Just as wives of St. Louis realtors were having the deal explained to them, the bank owning the site decided it did not want the mortgages. The option expired and today the site still awaits its skyscraper.



St. Louis

Toledo is in many ways a normal city, and in it is the story of typical pre-depression plans awry. There Clement O. Miniger, whose Electric Auto Lite Corp. is an important industry, would have built the Miniger building, 35 stories high, on lots fronting busy Madison Avenue between Erie and Ontario Streets which cost Mr. Miniger and his associates $1,500,000 in 1929. When the stock market crash called the project to a halt 30 small properties, some unimproved and since become parking lots, had been bought. On these properties the Miniger interests now suffer a large annual loss.



Toledo

"Converting the site to a parking lot area was not the result of a studied policy," explains Louis H. Gould, the company's real estate manager. "During the months while we were acquiring land for the building site a parking station man offered us small rentals on these vacant properties and we took his proposition, little dreaming at the time that the arrangement would continue for years. We razed some of the buildings we bought and those which were in good condition we kept occupied on month-to-month leases." The income from all the properties of the site is $750 a month, while the taxes alone amount to $1,500 a month. "Some day we may build a two-story building covering the whole area," says Mr. Gould. "By so doing we figure we could cut our annual loss from $50,000 to about $20,000, but we can see no way to turn our investment into a profitable one for many years to come."

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Some of 1929's plans, bettered or judiciously revised, may yet be realized, but for the most part they are dead. New plans will take their place. Office building is going ahead. Right now Indianapolis is hearing men rip up its historic old Denison Hotel and there are plans to build an ultra-modern skyscraper on the site next year. Economic planners have long talked about decentralization, and perhaps a measure of it will be forthcoming. But there will be faster and better means of transportation to offset the hegira. Companies will always seek offices near their corporate kith and there will have to be tall buildings to accommodate them. While 1929's dinosaural eggs may be forgotten, the forces which created them have not yet disappeared.

THE

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VOLUME LIX NOVEMBER, 1933 NUMBER FIVE

PWA IN ACTION

On JULY 8 President Roosevelt named his new friend and cabinet intimate, Harold L. Ickes, to take on the job of Public Works Administrator along with his Interior Department secretariat. From that date until October 26, allocation of PWA funds trickled, then streamed from Washington at an average of $121,000,000 a week. The 110-day total was $2,066,247,793.

Of the $3,300,000,000 set aside by the obedient Congress at its last session, $1,233,752,207 still remains to be allocated before January 1, the date Administrator Ickes posted as the final allotment day.

To complete its earmarking by the new year, PWA will have to step up appreciably its weekly totals. Its volume record so far is due principally to lump allotments — $325,000,000 for the Civilian Conservation Corps, $400,000,000 for roads, $200,000,000 for flood control, $238,000,000 for ship building, $100,000,000 for the Farm Credit Administration.

From now on, with the probable exception of $200,000,000 for the Federal Housing Corporation (see page 428), the allotments will be for thousands, not millions of dollars. From now on, money will be given almost exclusively to cities, towns and counties.

The Record. PWA's troubles began at birth. It had organization woes surpassing those of the hurriedly begot boards of War days. Congress had ordered a revolutionary change in the method of authorizing public works. Some wanted the $3,300,000,000 split up among the 48 States with little or no control over expenditures from Washington. Others wanted full jurisdiction given to local administrators. The Administration as finally set up, however, consisted of regional advisers in ten areas with State Advisory Boards and State Engineers representing Washington in each State. Wisely, the purse strings were held in the capital.

Letter, telegram and newspaper squawks were deadening for the first few months. The deliberate Mr. Ickes was called "too honest for his job," and the old cry of "red tape" was raised by municipalities eager to put their citizens to work with Federal money.

PWA seemed slowest of all to the building industry. Its first shock was the taking away of Federal building money for the CCC. It moaned again when the ship builders got a quarter of a billion, and again when the farmers got a hundred millions. Used to public works in the form of courthouses, post offices, and other public administration buildings, it bristled with sarcasm, "What kind of public works are these!"

More than a billion of the three billions had been spent before the private architect, the private contractor, and the other components of the building industry had anything to cheer about. It was not until August 16 when $9,200,000 was set aside for five different low cost housing projects that builders partially regained their original belief that PWA was going to benefit them.

Other housing loans totaling $13,590,000 followed. Then, on September 9, came the first ap-

proval of a school building project — $3,700 for an addition to an Albion, Indiana, school. A few days later, $710,000 for five schools in Augusta, Georgia. More schools, hospitals, prisons, town halls, museums, libraries — public buildings of all kinds, in all sections of the country — began figuring in all announcements of allotments. Today, fully half the money is going into buildings. Loans and grants, in many instances, are for only a few thousand dollars, in others for millions. Some are loans, some grants, and some combinations.

On October 26, the amount of money set aside for non-Federal building was $63,796,418. By far the largest portion of this is for housing — $46,219,958. Schools run second with a total of $6,580,222 for 42 different projects ranging in size from $700 for a school in Central Point, Missouri, to $1,198,900 for two schools in Buffalo, New York.

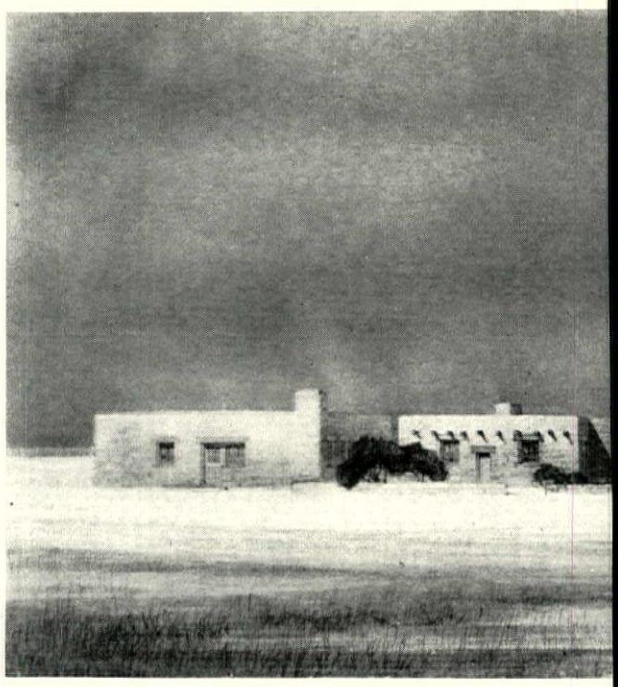
Added to this total, $161,414,779 has been set aside for Federal Buildings, post offices, courthouses, office buildings. Most of these projects had already been approved by the Hoover Administration, but appropriations were impounded in the general public works fund when the Roosevelt régime took over Washington. The combined total of Federal and non-Federal buildings is $225,211,197.

An analysis of the approximately $250,000,000 that has been allotted to non-Federal projects of all kinds supplies an answer to those who feared that buildings were to be shelved for waterworks and other engineering projects. The breakdown shows:

Waterworks, sewers, etc.	$72,845,000
Buildings	63,796,000
Bridges (including $44,200,000 for New York's Tri-Borough span)	54,191,000
Roads (in addition to statutory allotment of $400,000,000 to Department of Agriculture for State roads)	15,268,000
Miscellaneous (including $37,500,000 for New York-New Jersey tunnel)	43,530,000
TOTAL	$249,630,000

Partisans of building projects might still find cause for complaint in the 8-to-1 ratio between all other types of jobs, Federal and non-Federal, and building. But most of the large engineering projects and special expenditures are out of the way. Although no promise of building emphasis has been made by the Administrator, he did say in the Public Works Reference Number of THE ARCHITECTURAL FORUM:

"The Administration realizes that dollars spent for needed buildings have a more wide-spread economic effect than money spent on many other types of projects. Therefore, in administering the public works sections relating to buildings we are mindful of the broad provisions of the act and their bearing on the economic status and purchasing power of the millions who are dependent directly and indirectly on construction for their livelihood."

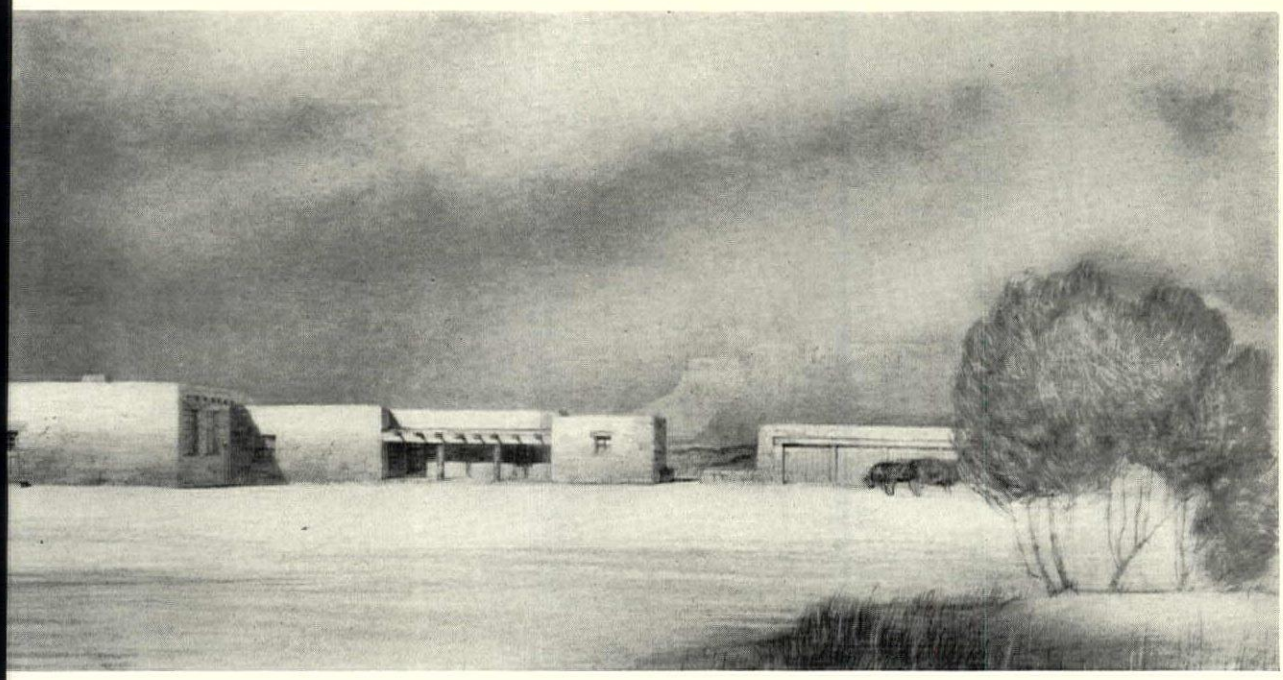


What this may mean can only be guessed by past performance. If, as Administrator Ickes has promised, almost the entire $1,233,752,207 still to be allocated goes to non-Federal projects, and if the same ratio between buildings and non-building projects is maintained, private construction interests may expect almost $500,000,000 as their share of PWA money from now until January 1.

Allotments and Expenditures. The criticism levelers have directed most of their charges against the long delay between the allocation of funds and the actual paying out of money. The delay is certainly existent, for less than $150,000,000 has been withdrawn from the Treasury. But the blame can scarcely be laid wholly on PWA's door step.

Early in the program, when submission of projects to State Boards was a mere dribble, Administrator Ickes aimed to overcome the reticence of mayors and county supervisors by laying down a rule for public works making it possible for local groups to ask for money without having decided whether they were actually eligible, and without giving full details of the proposed project. The resolution said: —

"Resolved, That upon a prima facie showing that a proposed State or municipal public works project is socially desirable, is satisfactory from an engineering point of view, and can be financed under the law, the Public Works Administration may make an allocation of the money required for such a project on the condition that not later than thirty days after such allocation, the financial and engineering features of said project be worked out and a final contract, satisfactory to the Administrator of Pub-



Where little Navajos will go to school. Dene Hotso, one of the scores of community center-day schools being put up with PWA funds for the Bureau of Indian Affairs in its program to revolutionize Indian education. Mayers, Murray & Philip, Architects

lic Works, be executed, failing which the tentative allocation shall be without effect."

With this pointed invitation, non-Federal project allocations began to be made in greater amounts — jumping from a few millions to 35 millions a week. But the speed gained in allocating money was lost in the delays of overcoming the restrictions placed upon States and municipalities by the provisions of State constitutions and State statutes.

So many schools, water works, community halls, etc., were held at the barrier by legal intricacies that E. H. Foley, Jr., assistant to PWA's general counsel, Henry T. Hunt, made a thorough investigation of causes, and suggested four remedies:

These are:

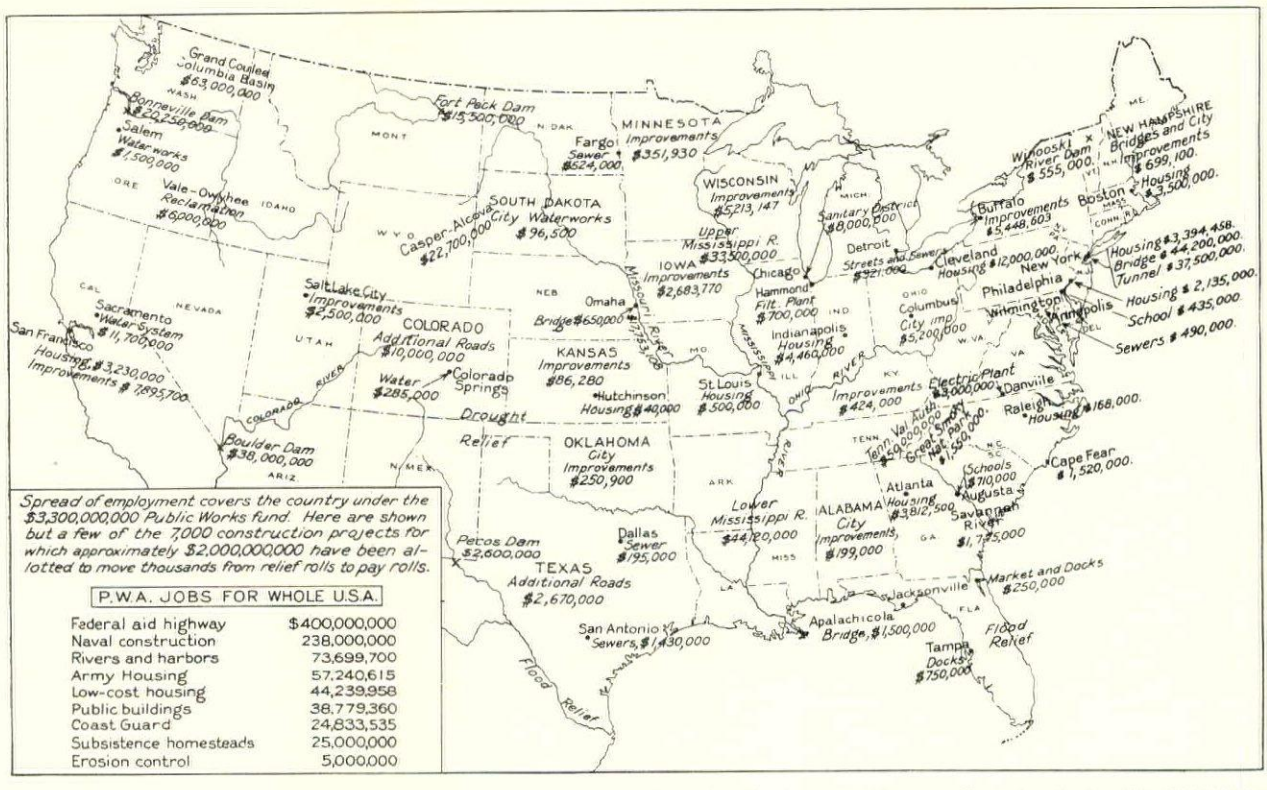
"It is desirable, where such a law does not already exist, to pass a revenue bond act. Under a revenue bond act the security in back of the bonds is the revenue from the particular project involved, which is thus made to pay its own way without any additional burden to the taxpayer.

"Another method is to authorize cities to borrow from the Federal Government without regard to statutory debt limits, and to dispense with the necessity of referendum elections, notice of hearings, and other time-devouring impediments, such as the requirements of public sale. The so-called Mandelbaum Bill in New York, now constituting Chapter 782 of the Laws of 1933, is an excellent example of this type of legislation. In certain respects this law is ambiguous and ineffective and should be used as a model with care.

"A third method is to make the raising of the debt limit dependent on review by a State commission set up for the purpose. Such a law would provide that whenever the State commission is convinced of the necessity of a particular project, it may authorize the municipality to incur indebtedness in excess of its debt limit, with the further proviso that the resultant indebtedness to the United States Government is not included in computing the statutory debt. Such provisions are to be found in the recent Rhode Island Act passed at the June, 1933, session constituting Chapter 2078 of the Public Works Laws of 1933.

While certain of the features of this law, such as the review by the State Commission of all Public Works projects, are undesirable because of the delay incident to a multiple review, there is much to be said for not allowing municipalities to borrow in excess of their debt limits except where a State commission has first approved the loan.

"A fourth method, and probably the best, is exemplified by Chapter 26 of the Acts passed by the Extra Session of the General Assembly of Virginia in 1933. This law is in effect for a limited period of time and deals specifically with loans and grants by the Federal Administrator of Public Works to the counties, cities and towns of Virginia. It supersedes the provisions of all inconsistent laws, general or special, including charters, and confers powers which are in addition to the powers conferred in other laws. Instead of being simply a revenue bond act or removing the specific restrictions, or raising



Representative PWA projects stretching from coast to coast and border to border show nearly every State sharing the $3,300,000,000

the debt limit and going no further, the Virginia act accomplishes all of these results and at the same time sweeps away all statutory limitations on the issuance of bonds contained in other statutes of the State. It is in effect a general bond act of limited application complete in itself both as to powers and procedure."

Besides setting forth these general suggestions for unwinding the red tape that has threatened to choke off the flow of funds, PWA's legal department is anxious to help in the framing of legislation, or in the formulation of procedure. It is contemplating the establishment of local legal bureaus to lift from the Washington office the burden of extricating political subdivisions from the tangle of State laws.

Why Projects Fail of Approval. Despite the complete, clear instructions of PWA to municipalities, limited dividend corporations, and others seeking loans and grants, more than 50 per cent of the projects submitted have been refused serious examination because of the lack of information accompanying the request.

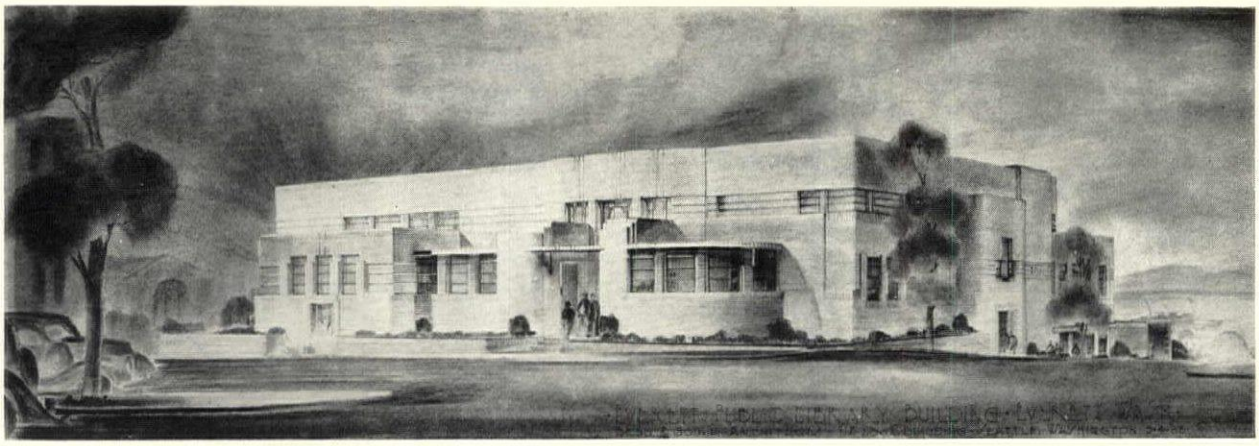
The principal offense is the inadequacy and insufficiency of data on the ability of the political subdivision to borrow money. Towns which have exceeded their debt limits, or which have made no provision for the emergency expansion of their legal restrictions, request loans without giving thought to their ability to accept them.

A second offense is the repeated requests for grants exceeding 30 per cent of the total project, even though the set-up states in no uncertain terms that grants may be made up to 30 and loans made for the remaining 70 per cent of the project cost. The government has definitely decided against altering this condition even though many communities have refused to meet these terms. Others have balked at paying the 4 per cent interest charged by the Government for its loans, even though this is a lower rate of interest than could be obtained from other lending sources.

Another frequently repeated offense is the filing of incomplete plans on proposed projects. Communities that consider themselves too poor to retain architects and engineers have sent in rough outlines of proposed developments that could not be acted upon because they failed to offer essential information. All were returned with the suggestion that local architects or engineers be retained to work up the necessary specific information.

Still another cause for rejection was the isolated character of the project, wholly unrelated to future growth of the community.

There was considerable political difficulty encountered in the weak attitude taken by local authorities in saying "no" to proposals that were being sponsored by political bigwigs. Rather than risk disfavor at home, many regional directors sent in projects that were certain to meet disapproval by Ickes and his board. This buck-passing practice



A grant of $23,600 was allotted for this library in Everett, Washington; Bebb & Gould, Architects

cost the program much valuable time.

The Future of PWA. It is becoming increasingly evident that even when the total of $3,300,000,000 is not only allocated but is actually being spent for building projects that this sum will not be sufficient to become the priming force that it had been hoped it would be. Still at grips with the general problem of employment through the various activities of the NRA, the Government is far from satisfied with the progress that has been made.

Although the consensus of all reliable agencies is that 2,000,000 people have been yanked from the rolls of the unemployed and set to work, the figure is not yet high enough to warrant any considerable rejoicing. Just what percentage of these have found work under PWA has not been determined. A nation-wide survey is in progress to find out what the figures are — and what they are likely to be when the money is actually being spent.

The Administration uses 85 per cent as the part of every dollar spent that goes into wages, including those paid directly for building labor and those paid indirectly in the manufacture of materials etc.

Because unemployment has not been checked in as complete a manner as had been hoped, Administration leaders are giving thought to the possibility of requesting Congress to jump the amount of money from $3,300,000,000, to $5,000,000,000. The Administrator is known to feel that when the first total has all been allotted by January 1, there will be hundreds of projects left over from municipalities and other political subdivisions which could not get their financial houses in order soon enough to take advantage of the Government's fund.



Largest of school appropriations, $1,198,000, went to Buffalo, N. Y.; this and another school by D. G. McNeil, Architect

NON-FEDERAL BUILDING ALLOTMENTS, OCTOBER 26, 1933

	Loan, loan and grant, or both	*Amount*
Neptune Gardens, Inc., Boston, housing	L	$3,500,000
Spence Estate Housing Corp., Brooklyn	L	2,025,000
American Federation of Full-fashioned Hosiery Workers, Philadelphia, housing	L	845,000
Dick-Meyer Corp., New York City, housing	L	3,210,000
Suburban Housing Assn., Hutchinson, Kan.	L	40,000
Corporation to be organized under Mayor's Business Recovery Commission, Cleveland, housing	L	12,000,000
Euclid Housing Corp., Euclid, Ohio	L	1,000,000
Neighborhood Assn., St. Louis, housing	L	500,000
Hallet's Cove Garden Homes, Inc., New York City, housing	L	2,965,000
Hillside Housing Corp., New York City	L	5,184,000
Limited Dividend Corp., Raleigh, N. C.	L	168,000
Corporation to be organized by Indianapolis Community Plan Committee of the Chamber of Commerce, housing	L	4,460,000
Albion School, Ind., school	G	3,700
Jacksonville Produce Terminal, Inc., shipside terminal market and dock at Jacksonville, Fla.	L	250,000
Augusta, Ga., school	L & G	710,000
Oklahoma City schools	G	133,000
Shawnee, Oklahoma, school	G	15,000
Springfield, Ohio, buildings	G	7,000
Springfield, Ill., buildings	G	78,000
University of Virginia, art museum	G	38,000
Tappahannock, Va., school	G	12,000
Chicago, Ill., dormitory	L & G	2,040,500
Board of Welfare, State of Maryland, remodeling prisons	G	64,000
New Trier, Ill., school	L & G	141,000
Iowa City, Iowa, State University, repairs	G	8,000
Iowa City, Iowa, State University, dormitory	G	57,000
Concord, N. H., dormitory to State hospital	G	31,000
Prince Georges County, Md., schools	L & G	408,000
Near Miller County, Bannell Dam, Mo., school	L & G	48,300
Union, Iowa, school	G	3,000
Lohrville, Iowa, municipal building	G	3,000
Nelson County, Va., school	G	11,000
Rocky Mount, Franklin Co., Va., school	G	2,000
Hillcreek Homes Corp., Philadelphia, housing	L	1,290,000
Fairfax, Va., jail building	L & G	50,000
Portsmouth, R. I., school	L & G	90,000
Iola, Kan., county poor farm	G	5,500
Whittingham, Vt., school	G	1,400
Clarke County, Ga., school	L & G	79,665
Boston, Mass., dormitory at State Hospital	L & G	334,000
Lockland, Ohio, school	L & G	50,000
Alma, Ga., school	L & G	27,100
Wilson, N. C., municipal building	G	3,000
Baltimore, Md., hospital buildings	G	135,000
Baltimore, Md., schools	G	124,000
East Moline, Ill., building at State Hospital	G	8,100
Cerro Gordo Co., Iowa, storage building	G	1,900
Everett, Wash., library	G	23,600
Newark, N. J., airport repairs	G	$ 22,000
Shenandoah Co., Kan., school	G	27,000
Dinwiddie Co., Va., schools	G	3,800
Roosevelt Terrace Housing Development, San Francisco, Calif.	L	3,230,000
Lena, Ill., remodel school	L & G	70,000
Medical Lake, Wash., hospital	G	26,400
Vancouver, Wash., addition to high school	G	35,000
Battle Ground, Wash., junior high school	G	6,400
Fort Steilacoom, Wash., hospital ward	G	70,000
Fort Steilacoom, Wash., commissary bldg.	G	6,600
Columbus, Ohio, airport improvement	G	4,400
Buffalo, N. Y., high school	L & G	1,198,900
Boscobel, Wis., community building	L & G	64,000
Circle, Montana, school	L & G	40,000
Elbow Lake, Minn., auditorium	G	8,000
Brunswick Co., N. C., school	G	3,500
Parkwater, Wash., airplane hangar	G	27,000
Baltimore, Md., fire house	G	12,000
San Francisco, Calif., buildings	G	77,000
Ditto	G	354,000
Ditto	G	666,000
San Francisco, Calif., bathing beach	G	166,000
Two limited dividend corporations at Atlanta, Ga., housing	G	3,812,000
Clarke County, Ga., school	L & G	103,630
Beloit, Wis., school	L & G	550,000
Kansas City, Mo., municipal auditorium	G	1,135,000
Westborough, Mass., hospital	L & G	59,000
Merrimac Co., N. H., alms house	L & G	150,000
Boston, Mass., state hospital	L & G	177,000
Norfolk, Mass., dormitory, State Prison	L & G	763,000
North Grafton, Mass., State Hospital	L & G	132,000
Westborough, Mass., dining hall and kitchen	L & G	258,000
Manchester, Ky., high school	G	5,600
Washington, Kan., city hall	G	3,700
Pullman, Wash., buildings	G	198,000
Wake Forest, N. C., school	G	15,000
St. Louis, Mo., hospital	G	274,000
Linton, N. D., courthouse	G	24,000
Iowa City, Iowa, buildings	G	92,000
Sumas, Wash., school	G	4,100
Marshall, Mo., jail and sheriff's residence	G	12,000
Sedro Woolley, Wash., hospital building	G	28,200
Randolph, Wis., building	G	1,300
Salt Lake City, Utah, school	L & G	300,000
State of Utah, State institutions	L & G	1,515,000
Grand County, Utah, school	L & G	130,000
Bannock County, Idaho, school	L & G	42,600
Mountain Grove, Mo., school	L & G	69,157
Bethel, Kan., school	G	2,200
Wilkins Co., Minn., school	G	53,100
Austin, Minn., building	G	9,000
Pueblo, Colo., dormitories	G	92,000
Ottumwa, Iowa, armory	G	42,000
Farnhurst, Del., poor farm	G	26,000
Tomah, Wis., city hall	L & G	48,700
Monson, Mass., storage bldg.	L & G	112,000
Northampton, Mass., hospital	L & G	242,000
Bingham City, Utah, courthouse	L & G	35,400
Northampton, Mass., hospital	L & G	106,000
Framingham, Mass., police barracks	L & G	218,520
Framingham, Mass., school	L & G	34,000
Amherst, Mass., building	L & G	121,000
Oakland, Calif., building	G	600
Bedford Co., Pa., school	G	7,000
Mansfield, Conn., school	G	5,700
Tewksbury, Mass., infirmary	L & G	48,000
Millwood, Wash., school	G	7,800
Lane Gardens Housing Corp., Cincinnati, O.	L	1,980,000

ON THE DETAILS OF DETAILING

BY HAROLD R. SLEEPER

Co-author, with Charles G. Ramsey, of "Architectural Graphic Standards"

ARCHITECTS are naturally interested in the birth of their ideas as expressed by the sketch drawings; they may show some interest in the working drawings, but here their active interest too often wanes, not to revive until the full size details are under way. However, the constant metamorphosis of our construction materials and methods makes it increasingly necessary for the forward looking architect to direct with understanding the making of middle scale details.

This age of rapid progress and development has given a new import to architectural details. One must remember that these drawings indicate construction, materials, joinery, and dimensions for *actual building*. On these details are based the shop drawings, which are becoming more and more important with the mechanization of building construction.

The young architect and many of the established offices proceed from small scale to large scale, step by step. An unusual procedure that has been tested by several offices for years is to study all detail at ¾ in. in pencil before the ⅛ or ¼ in. drawings have proceeded beyond the rough stage. This suggestion may seem extreme for some but if tried it will prove that the working drawings then can be completed at greatly accelerated rate and with much less erasing. The reason is that the large scale sections solve every problem in design and construction so definitely that the working drawings are then mere copies at the smaller scale.

Accurate small scale details are profitable to the architect. In the first place, legible, definite and complete sheets will save in the cost of superintendence, eliminating questions and arguments. Shop drawings can be more intelligently made and more expeditiously corrected and returned, or, they may need no corrections; another saving in actual cash. Extras will be minimized if scale details are explicit and accurate and the original contract bids will be based on facts rather than on guesses. A contractor will cover himself when he has to guess at future details. Finally the architect's prestige will be enhanced with contractor, foreman, fabricator and client. The cost of the extra time consumed in preparing such details will be more than offset.

What Scale. Equally famous as the "Doughnut versus Cruller" argument is the question of scale for details. Middle scale details are usually drawn at ¾ in. or ½ in., the former for domestic work and the latter for large or monumental buildings where paper size would be awkward. Three-quarter inch scale enables more details to be shown clearly and is more easily read. An examination of shop drawings, however, shows that the majority are done at ½ in. As such drawings have only to show the work of one trade they can be done at the smaller scale without crowding.

Detail Sources. How to start the detail is a question for the draftsman. Shall he drag out a half dozen old jobs and hope to find details similar to the work in hand? Shall he bring out the file of office plates and thumb through until he finds some similar details? Or shall he start his hunt in the library books? No one answer can be given as each task must be treated individually.

However, it is dangerous to crib details unless one has definite knowledge of the conditions that brought about their use. Many details may have been influenced by laws, regulations, local conditions as to the availability of materials or cost of materials. Local methods or union rules also may have determined these drawings.

A good understanding of character, locality and cost of the work is essential before any details are started. If time is short, save on research for similar details rather than skimping the study on the governing conditions.

The sources of information regarding legal or technical requirements are numerous, including trade catalogues and manufacturers details as well as three or four of the well-known standard books. The Government, through at least three departments and several bureaus of the Department of

Commerce, has valuable documents on construction details. All of the principal trade associations publish standards for their own phase of building. The national and local fire underwriter's codes, the State Labor Laws, and the building and fire department regulations should be examined to see just where they apply to the building in process. A well-equipped office should have all of the above publications where they can be had as readily as possible. The detailer too often expects his superior to ferret out the governing codes and, as a result, major mistakes are made. Above all, read and study the specifications if they have been started; if not, take counsel with the specification writer.

After the draftsman is thoroughly acquainted with the job and has discussed the specifications, he should list the trades that will be involved and call in representatives of all trades that may have any usual condition — in fact he will do well to call in experts (if any are available, and if not, salesmen) for all of the trades that are undergoing constant changes in their technique or in the materials that they use. At present this is true of all of the metal trades, of floor finishes, of all mechanical and electrical work, to mention just a few.

Good contemporary details along with photographs of work from representative offices should be filed or bound for reference. Such material is always welcome and frequently provides the hint that solves the problem in the detail on the boards. Such well-prepared details raise the standards of the profession as a whole.

"Paper" Details. Several architects were asked what in their experience was the most fundamental fault that they found in details as produced by the average draftsman. The almost unanimous answer was that details were inconsistent; did not, as shown, agree in plan, elevation and sections; just didn't hang together. The plan might be perfect and the section, as such, excellent, but they didn't fit; they were paper details that made execution impossible. To avoid errors of non-agreement between plan, elevation and section, get the habit of "following around corners" by making small thumb-nail perspective sketches of items which have complicated intersections. The cause of such gross errors is largely due to the fact that too few draftsmen have had the advantages of working in shops or factories where drawings take on a reality not apparent in the drafting room. Those who have had much superintending to do are more likely to consider the drawing more as a means to an end and will avoid these errors. Fortunately the fabricator's shop drawings correct many a detail's mistakes before they are made into sticks and stones.

What to show and what not to show at the various scales is always a question. Every office has its established practices (which are seldom adhered to), every draftsman his own method (which he changes with his moods). If the chief and his men can agree on *what* to indicate, then they still have the problem of *how*. Our profession has a long way to go before practice can be standardized. Architects hate the sound of that word and many feel that their prerogative is to do as they please when they please. Yet such an attitude is not easy for the drifting or itinerant slave who tries to do their bidding.

Some offices have made it a rule to omit all material indications on their small scale drawings; as a result it becomes more necessary for such offices to be more careful to show materials on the larger scale drawings. At any event it is sound to carry the ¾ in. material indications as far as possible with the help of good drawings. Such items as stone jointing, floor layouts, brick courses must of necessity be shown if the shop drawings are to follow with any hope of correctness. If after the work on the drawings is well along a shift in materials is made, then it is simpler to make the change on these details than on every plan and elevation. Materials that cannot be shown on the details should be cared for in the specifications. The joining of one trade to another can be done only on the drawings and hence there is an excellent reason for solving every such problem with care.

The question of who will execute the work has quite a bearing on the method of indication. For example, if one is detailing a fine interior that is to be built and installed by a specialist known to you for his fine work it is not necessary to indicate carefully in detail the method of joinery at every break. His shop drawing will do this better, in all probability. For this reason some of the details of our finest offices may seem incomplete to a man who has been working in an office that has had to show every joint or get none at all. Fashion the completeness of your details on the type of work to be done and the type of firm which will execute it.

Details are seldom inked except on very large work where the number of copies that will be needed is very great. First preliminary pencil scale sketches are made on cheap amber or white paper; these are all that are needed to proceed with the working drawings. Later these can be assembled and arranged, then traced and precised on heavier tracing paper or on tracing cloth for pencil (white). This cloth is not so easy to draw on as paper but the lasting qualities, as well as the possibilities of erasing, are very much greater. Poor arrangements and crowding of items are the curse of every subcontractor and superintendent and result in puzzles rather than explanatory drawings. The young architect too often seems to concentrate on the saving of paper rather than on clarity.

Now that most architects have plenty of time to devote to each job perhaps they will acquire the habit of producing more accurate, more complete, and more readable details.

THE
ARCHITECTURAL
FORUM
MASTER DETAIL SERIES

ARCHITECTURAL details — since the Pharaohs' foreman first sketched a lotus profile on papyrus for his stonecutter; details — drawn in Greek perfection on parchment; details — scratched on stone block by the master craftsman of the mediæval guild; details — today in bundles of blueprints dispatched to distant unknown workmen; always details have been the medium of translating architectural ideas into structural realities.

From the earliest days of architectural publishing, details of ancient and current work have bulked large in the subject matter of professional journals. But their publication, as a rule, has been fragmentary, miscellaneous; details as details and not in their relation to the building as a whole or related in style. It has remained for THE FORUM to organize and present details in a logical series, inaugurated in this issue — a series in which the houses and their significant details are shown together, and the chosen houses grouped according to their style derivations. Similarities, divergencies, variations of the same theme, forms modified by materials, are evident in this new way of presenting architectural details.

The modern way of detailing, and of using modern as well as time-honored materials, is shown in buildings which may be classified as modern or "international" in style and in those which are based on design forms of the more traditional models of former periods. Regular issues of THE FORUM will show residential details in this Master Detail Series and the Reference Numbers, now published six times a year, will offer details related to the subject of the issue. The illustration of better ways of building, of old forms adapted to new work, of new solutions to the age-old problems, are made most useful in the form every architect employs in his own work — DETAILS.

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THE ONE-STORY COLONIAL HOUSE

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THE NEW ENGLAND FARMHOUSE

If one had sufficient patience to delve into the archives of The New England Guild of Master Builders in search of authentic original working drawings and details used by these true architects (in the real sense of the word), one might be fortunate enough to run across the unpublished diary of one Caleb Wright Mead wherein possibly would be found "A True Exposition of the House Joinery of Our Time." Detail drawings would be almost entirely lacking but the essay would give an insight into the subconscious mind of a rising young architect of the Seventeenth Century. We quote the substance omitting many archaic English usages and spellings.

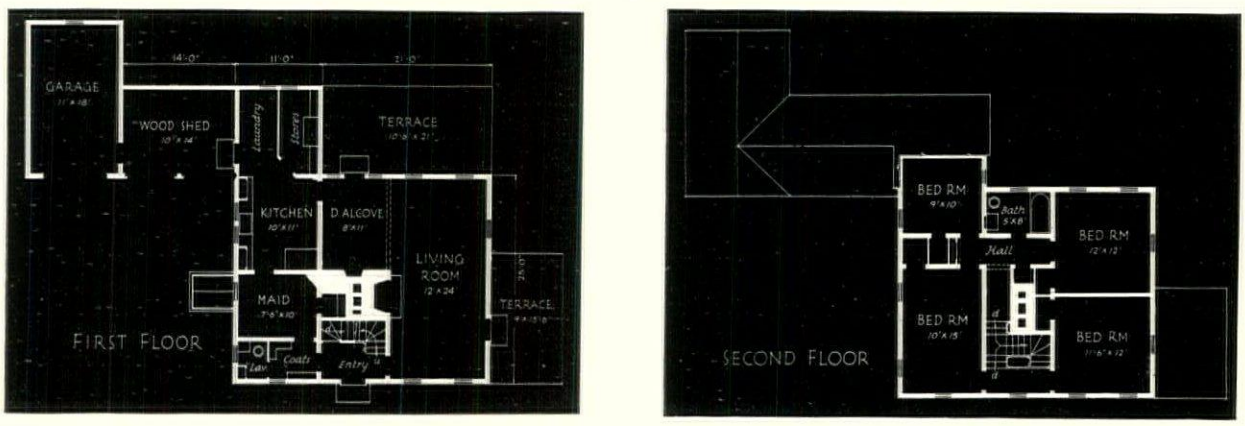
"First and foremost the apprentice in attaining to the art of house building must master essential principles of which there are several, to wit: select the forming of materials in such manner that they may best fit the uses to which they severally are put, endeavoring to spare undue labor in the shaping of material parts, for of wood is there a goodly quantity and sound, and of stone an abundance; yet be not lax in striving for perfect joinery and strong, using stout pegs tightly driven. So cover the join as to leave no crevice through which the weather may enter, for the join between two members requires great skill in the forming of each piece to its proper shape, a study that taxeth the mind and vexeth the spirit, for the perfect join hath never been joined to stand heat and cold, wet and dry, time and wear. Yet let not this discourage its quest.

"So build the wall that cold may not enter, keeping the outside thick and lapping the boarding, and using a blanket of woven sea-grass for warmth inside before placing the pine slabs for the inside wall or applying oak laths and lime plaster. Then will the wood box not often need replenishment. So too that the fireplace may not waste its heat, keep the ceiling low, that the occupants of the room may be warm. So form the fireplace that heat will radiate therefrom to the utmost. Place the chimney in the center of the house that it may serve the fireplaces of all the rooms. Let the slope of the roof be such that it may dry quickly yet not of such steepness that the rafters be of undue length. At the gable where roof and wall meet, place a board over which the shingles shall project enough to make tight against winds and weather.

"In all things seek first the comfort and safekeeping of the dwellers in the house, and in arrangement simple with room enough but not too much. Think of each thing for use that it may have its place, that the household may be orderly in the keeping, and the housewife not be wearied in the task. So shall thy repute grow for the goodliness of thy houses of honest skill, in appearance comely, that do serve well them that dwell therein. And many will seek thine aid that they may build likewise."

The keynote of these naïve but sincere precepts is simplicity and economy, for, while the early houses used more lumber and heavier timbers than structure demanded, wood was plentiful and the true economy was in the saving of time and labor. The forms employed were functional, embellishment being usually only the craftsman's modification of the structural form. The detailing of imitations of these early farmhouses demands an appreciation of the processes of wood working and a study of old examples to recapture their hearty spirit.

The New England farmhouse was a straightforward solution of the problem of providing the most comfortable living quarters by the most simple, direct and economical means available at the time. It was functional, logical, and, at the same time, derived from the traditions of English design and building practice adapted to the conditions of the time and place. In practice, common sense and honest craftsmanship erected houses which are durable examples of truths rediscovered and proclaimed in the philosophy and principles of the new architecture.



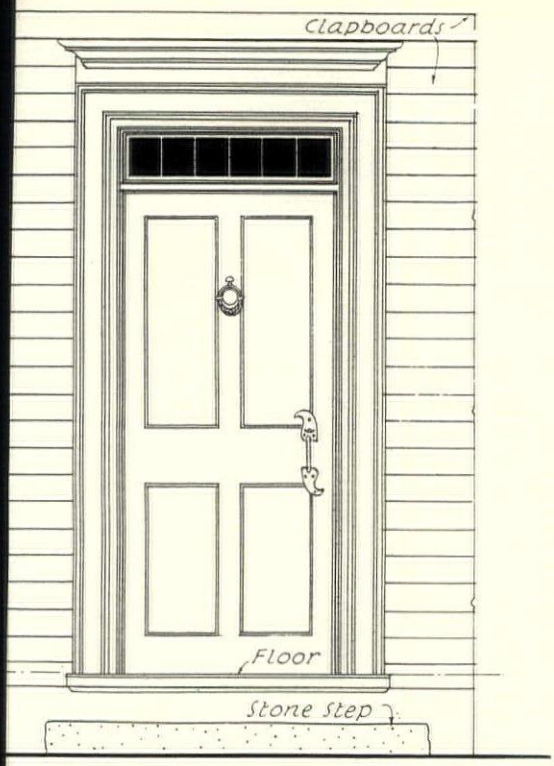
Plans of the House in New Canaan, Conn. Richard H. Dana, Architect



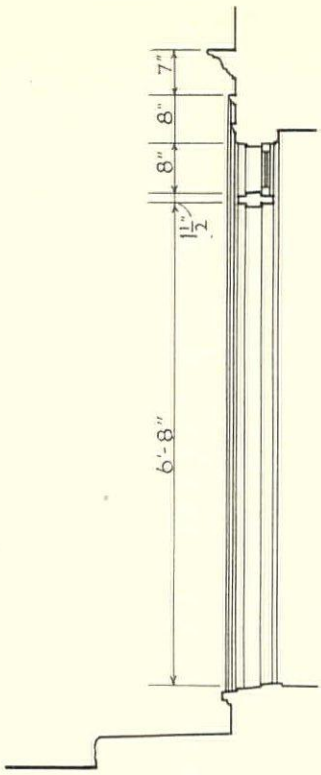
OUSE IN NEW CANAAN, CONN. · · ·



HOUSE IN NEW CANAAN, CONN. . . . . R. H. Dana, Jr., Architec



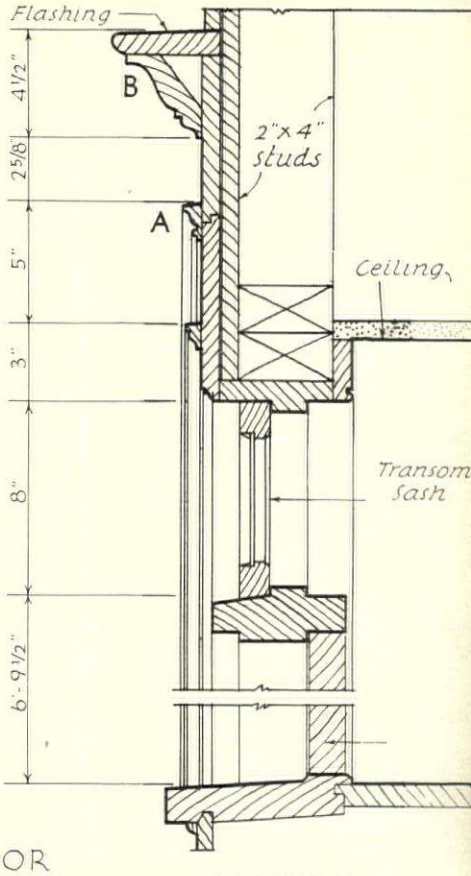
ELEVATION



SECTION

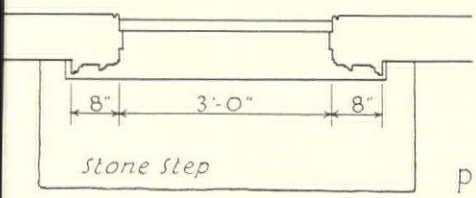
FRONT ENTRANCE DOOR

Scale 3/8" = 1'-0"



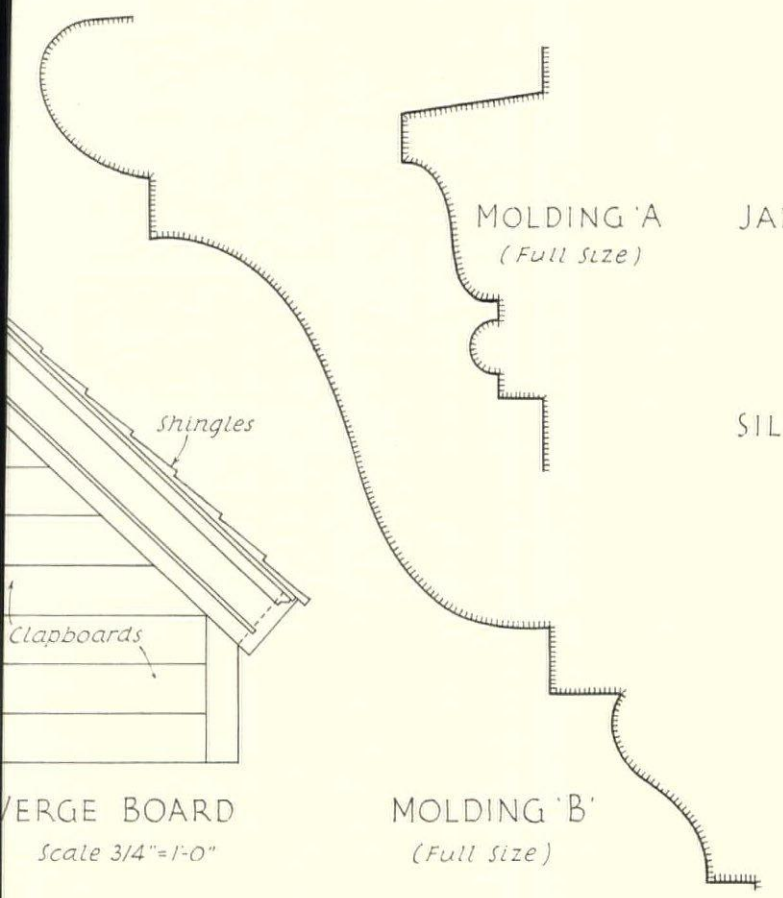
SECTION

Scale 1½"=1'-0"



PLAN

Exterior Details

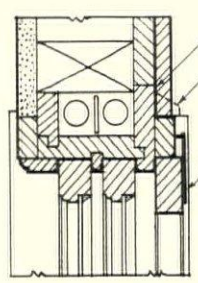


VERGE BOARD

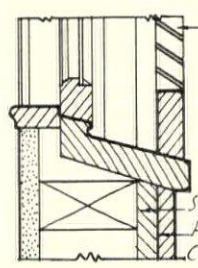
Scale 3/4"=1'-0"

MOLDING 'A'
(Full Size)

MOLDING 'B'
(Full Size)



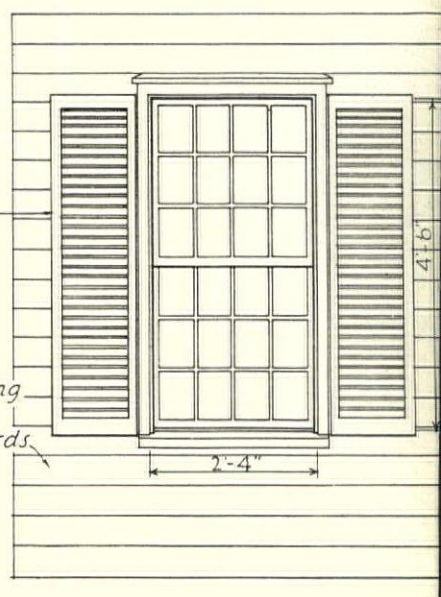
JAMB



SILL

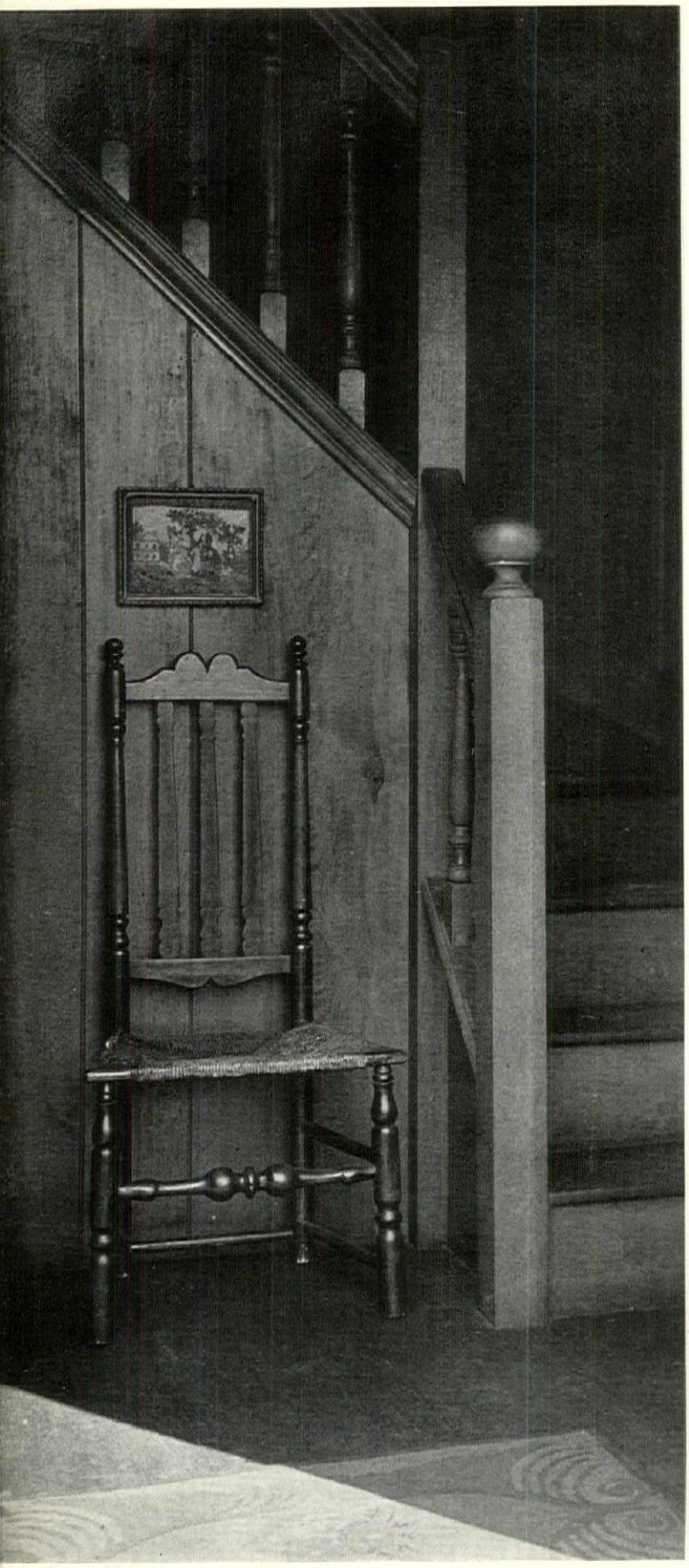
SECTION
TYPICAL WINDOW

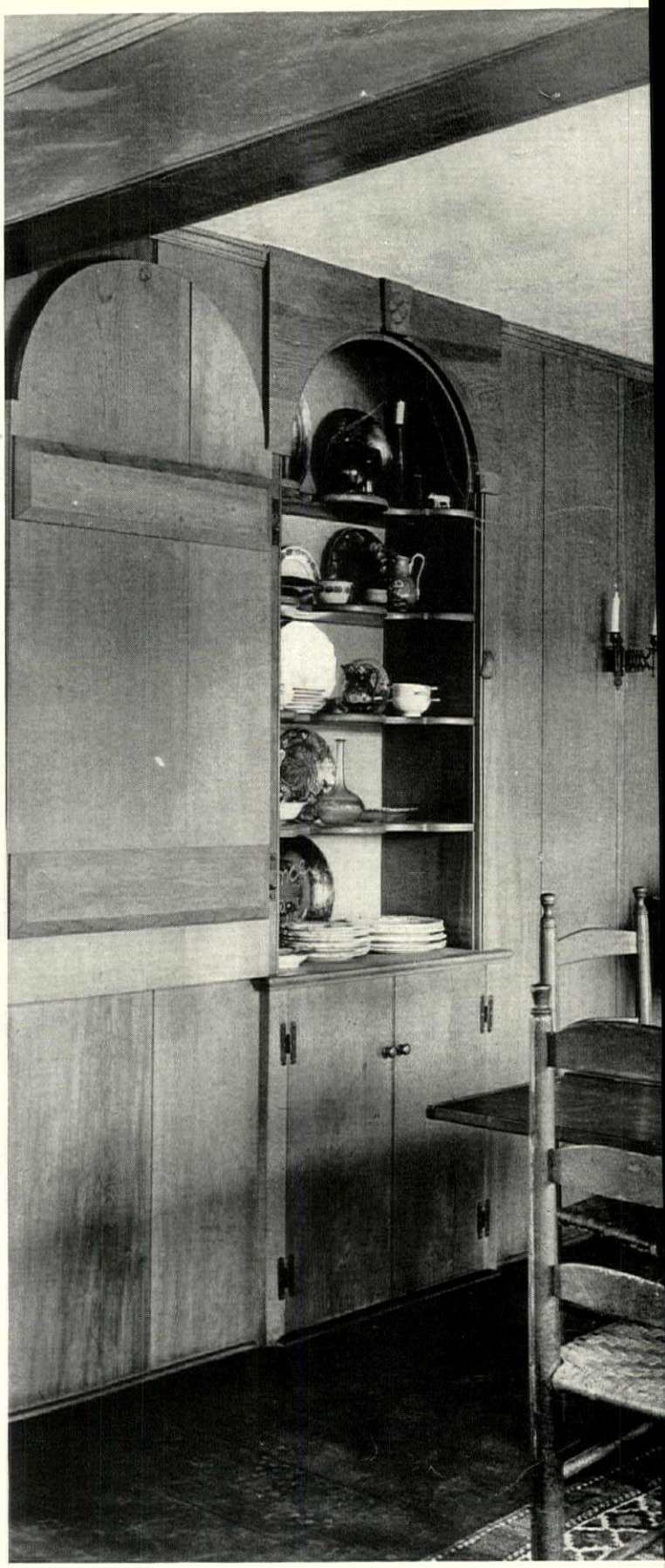
Scale 1½"=1'-0"



TYPICAL WINDOW

Scale 3/8"=1'-0"

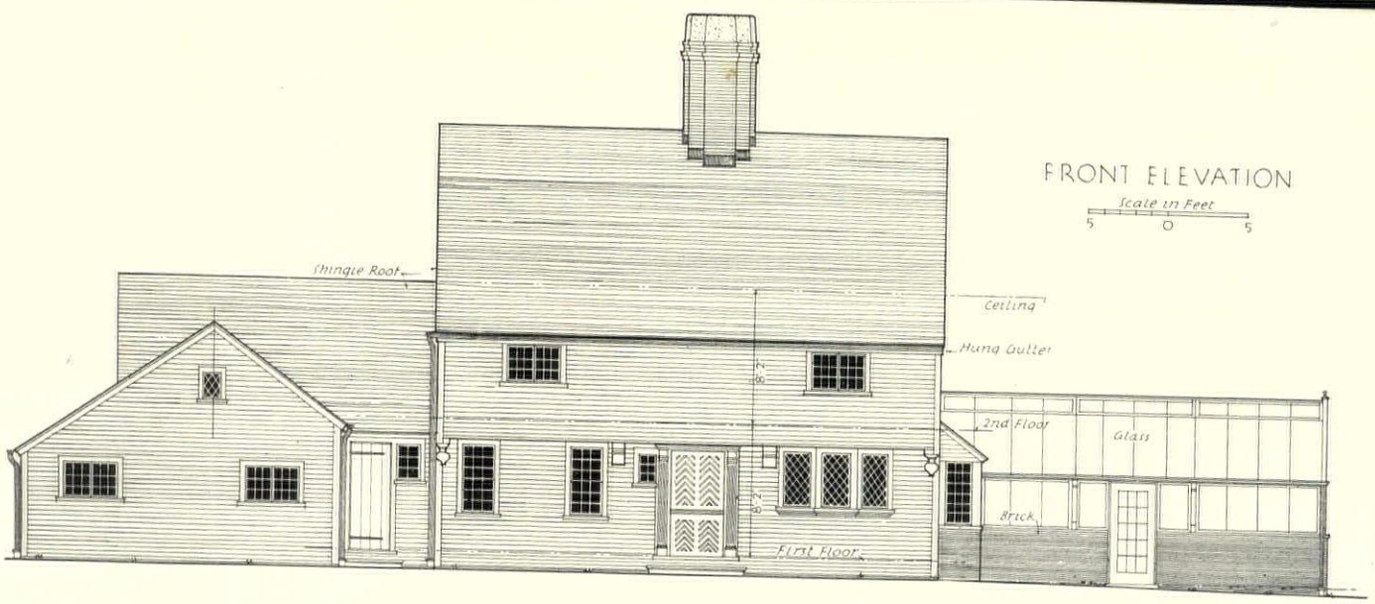




Photos, Kenneth Clark

ALTHOUGH Early American farmhouses abound in good examples of the simple closed-stringer type of stair, there is ample opportunity for architectural skill in detailing. This example with its pine-paneled enclosure below the stairs is an interesting variation on a familiar theme, characteristically simple and well proportioned

THE paneling and china cabinet of the dining room express a nice appreciation of the effectiveness of unornamented woodwork when it is well executed. It will be noted in the detail of the cabinet on the opposite page that the same consistency of design has been maintained in the kitchen as in the living areas

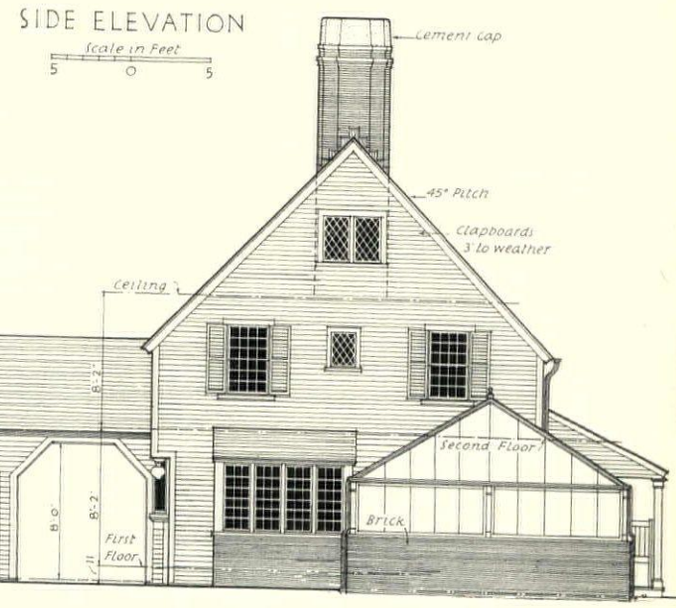

FRONT ELEVATION
Scale in Feet
5 0 5
Shingle Roof
Ceiling
Hung Gutter
2nd Floor
Glass
Brick
First Floor


SIDE ELEVATION
Scale in Feet
5 0 5
Opening


Roof
Bath
Hall
BED RM
BED ROOM
BED ROOM
SECOND FLOOR

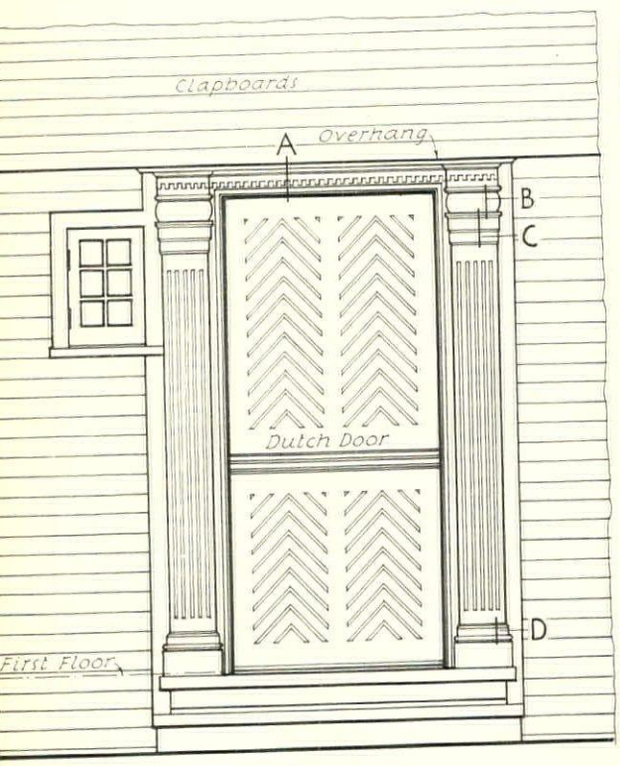

Porch
Entry
KITCHEN
Bath
MAN'S ROOM
DINING ROOM
LIVING ROOM
GREEN HOUSE
FIRST FLOOR
Vest


OPEN SHED
GARAGE

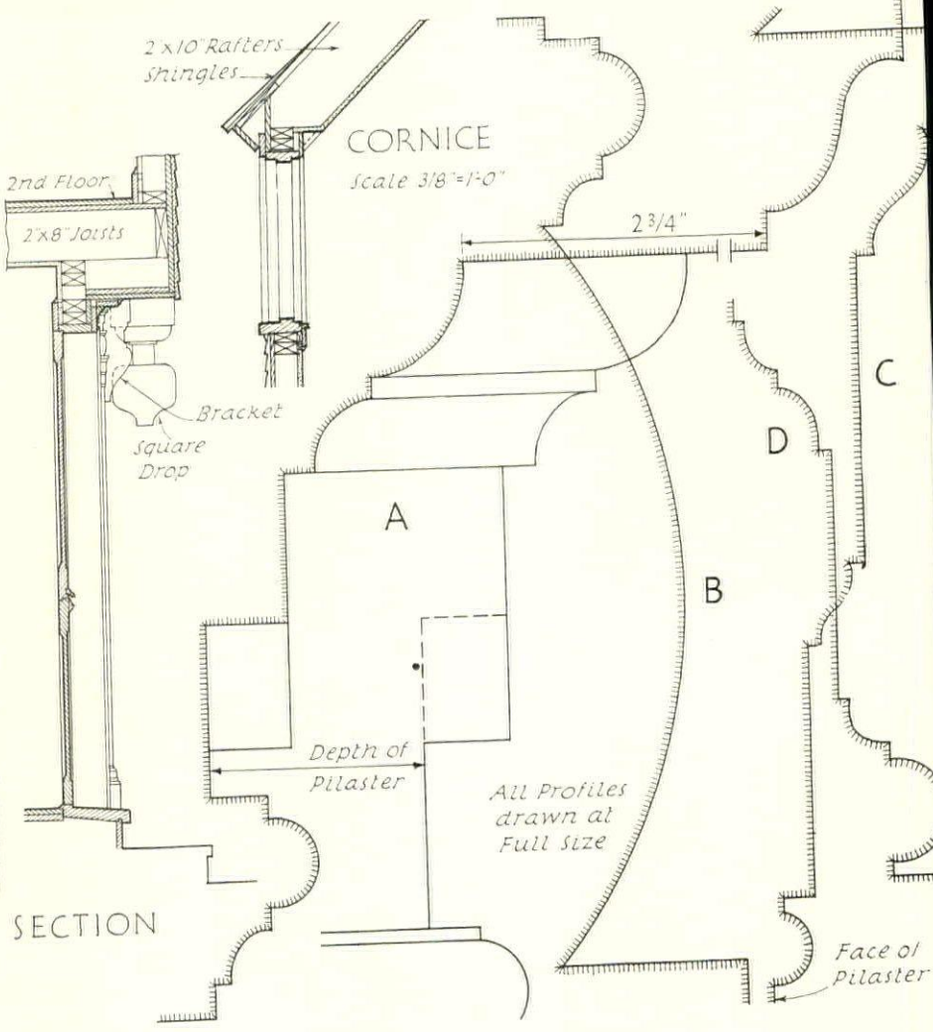

SIDE ELEVATION
Scale in Feet
5 0 5
Cement Cap
45° Pitch
Clapboards 3' to weather
Ceiling
Shingle Roof
Second Floor
Brick
Garage Floor
First Floor



Exterior Details



ELEVATION
Scale 3/8"=1'-0"

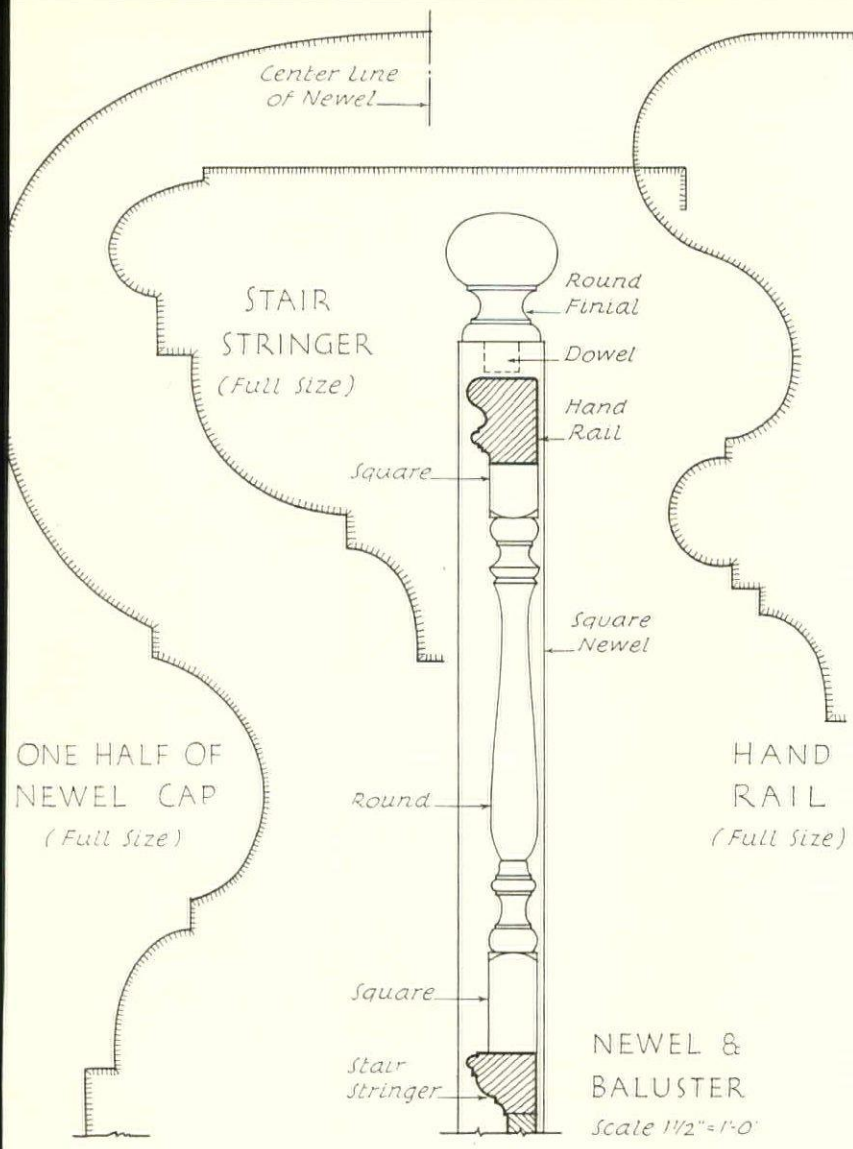


SECTION

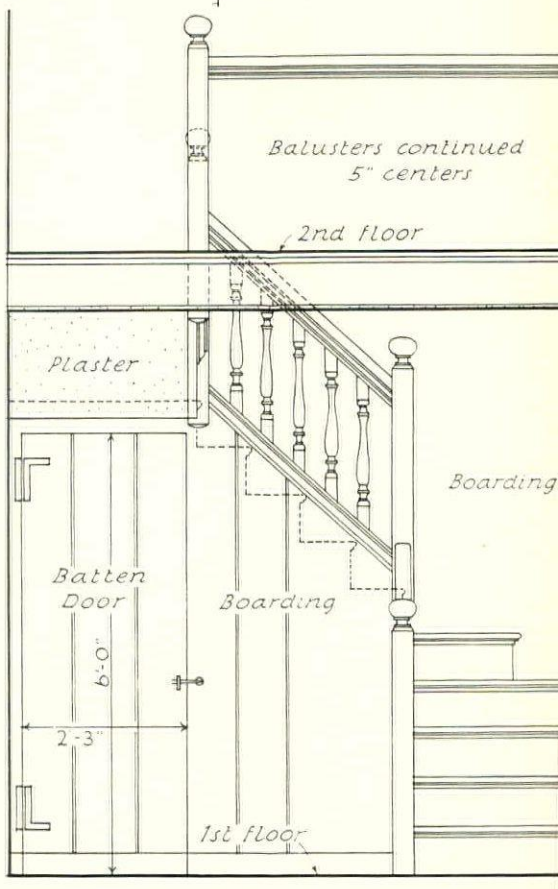


n Anda

FOR this gardener's cottage on a Long Island estate, Roger Bullard has worked out a highly acceptable solution of combining a strictly Early American farmhouse with a decidedly modern appendage in the form of a greenhouse. Of frame construction, the house is built of 3 in. cedar clapboards, painted an autumnal red, with trim, doorways, sash and greenhouse frame painted white. The roof is shingled and stained a dark weathered brown, and the chimney is of brick. For the informal fenestration, use has been made of several types of windows — leaded casement bays, pivoted metal and double-hung wood windows. All the interior walls are papered, with painted trim, and flooring of random width oak. With a cubage of 40,000 cu. ft., the house when built cost approximately 31 cents per cu. ft., and could be replaced today for considerably less than that

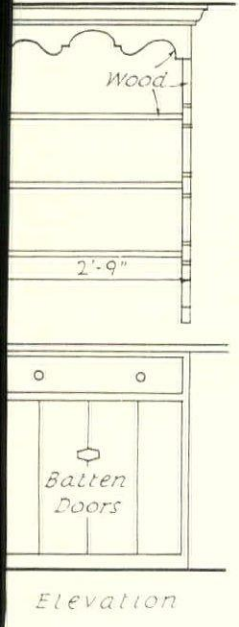


NEWEL & BALUSTER
Scale 1 1/2" = 1'-0"

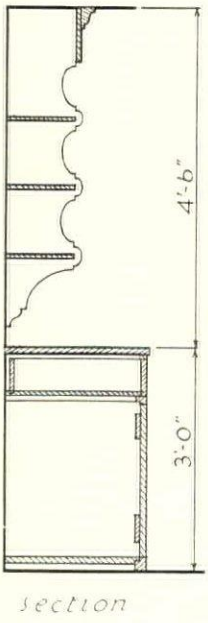


STAIR ELEVATION
Scale 3/8" = 1'-0"

Interior Details

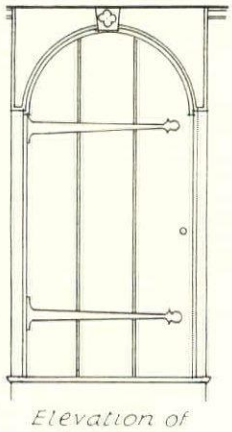


Elevation



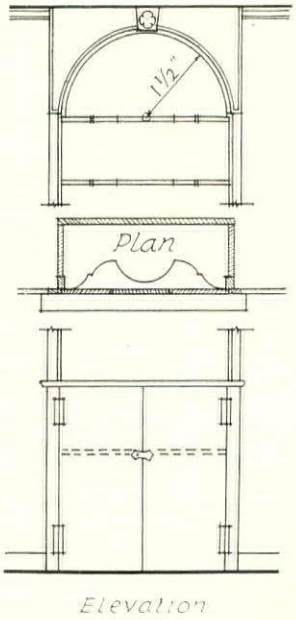
Section

KITCHEN CABINET

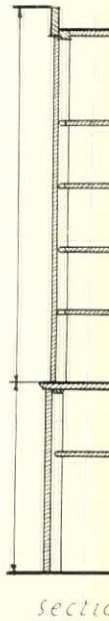


Elevation of Cabinet Door

Scale for all Lower Details 3/8" = 1'-0"



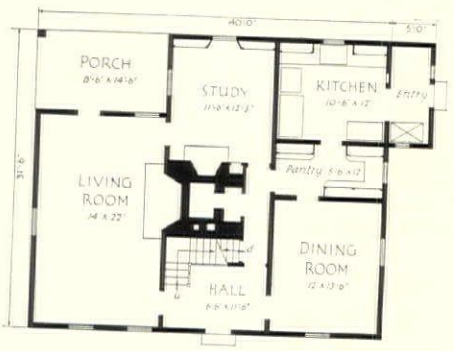
Elevation



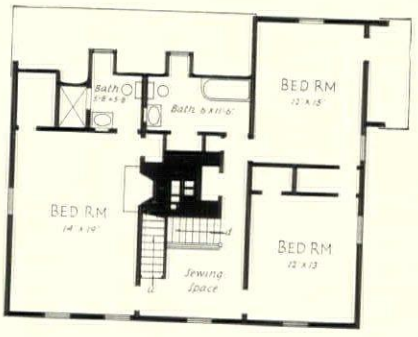
Sectio

CHINA CABINET





FIRST FLOOR

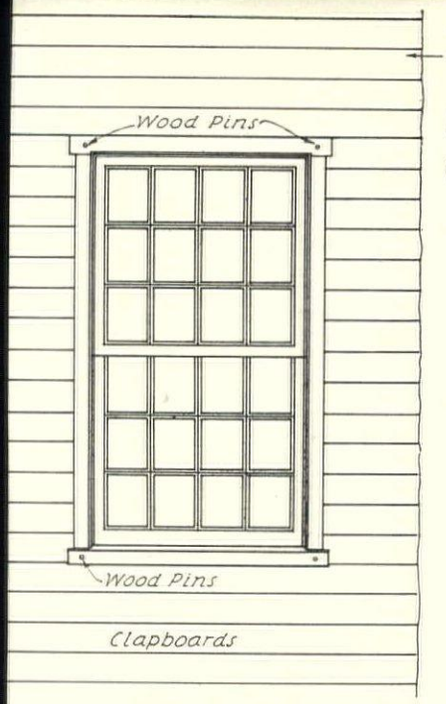


SECOND FLOOR

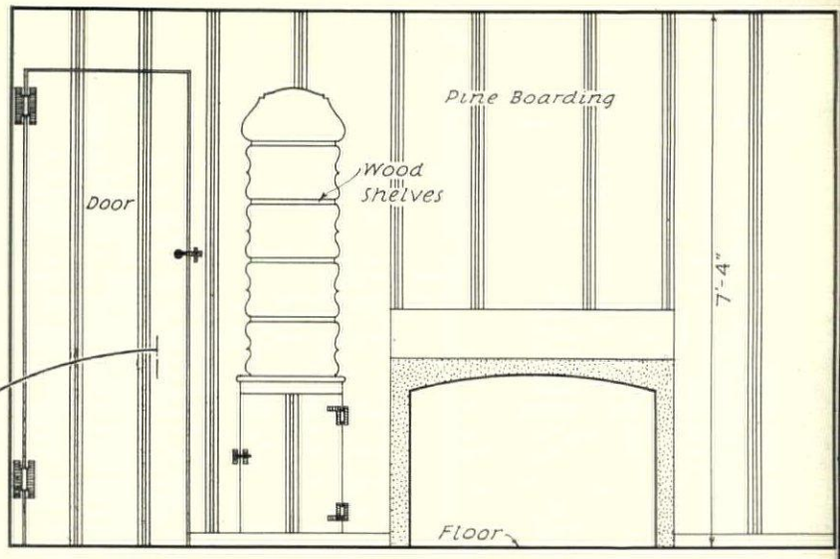




Exterior and Interior Details

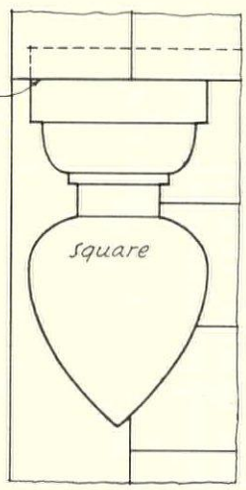


ELEVATION OF WINDOW
Scale 3/8"=1'-0"

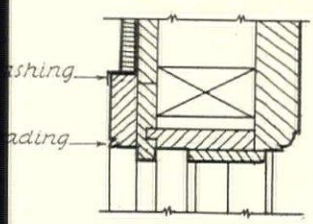


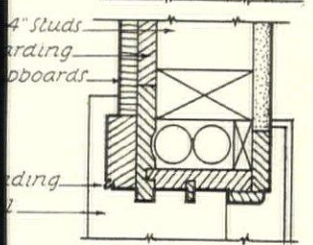
FIREPLACE WALL IN STUDY
Scale 3/8"=1'-0"

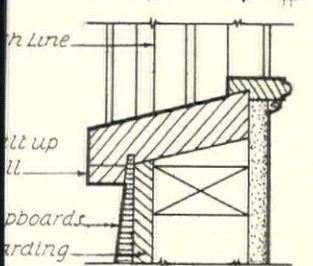
PROFILE OF NEWEL CAP
(Full size)



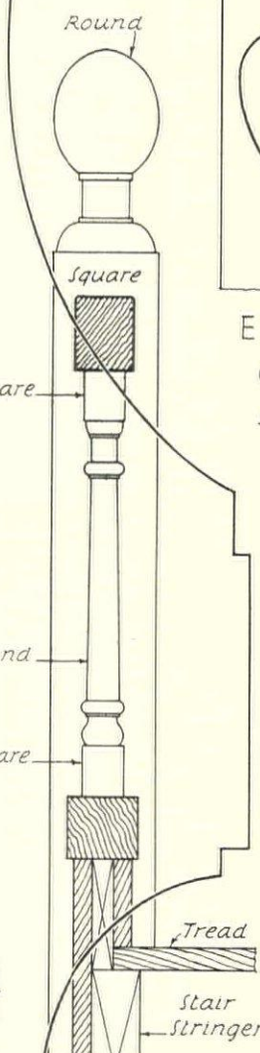
ELEVATION OF DROP
Scale 1½"=1'-0"



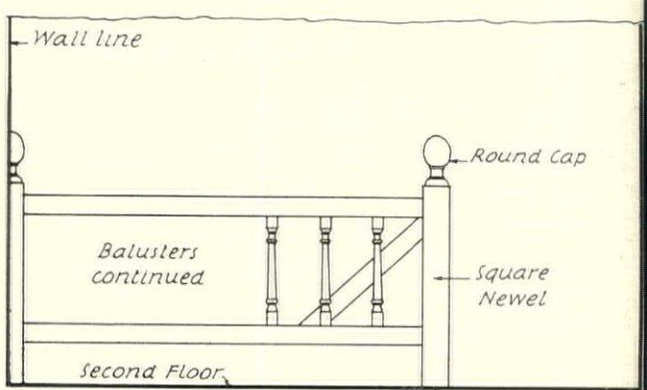


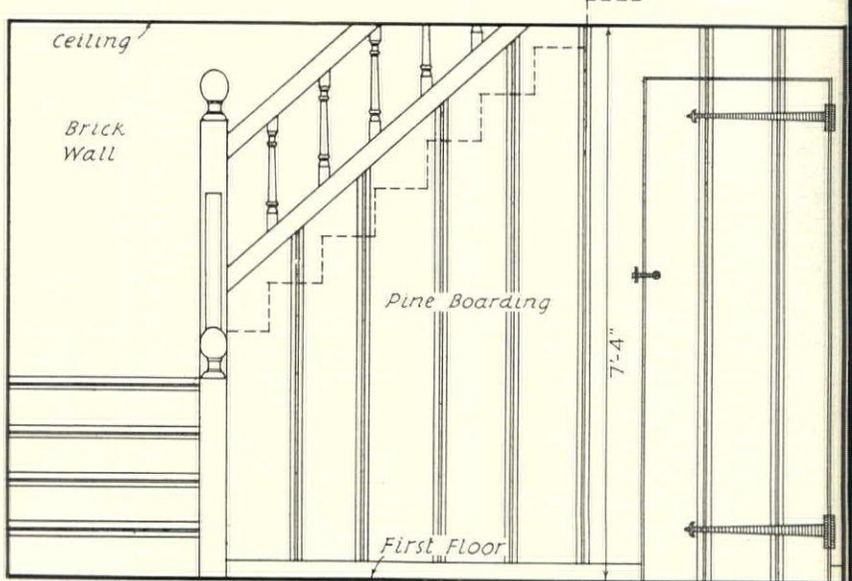


WINDOW DETAIL
Scale 1½"=1'-0"

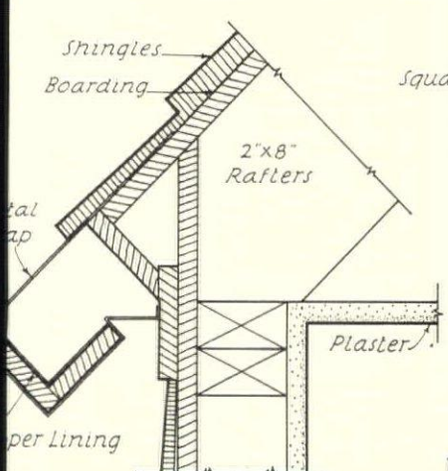


NEWEL & BALUSTER
Scale 1½"=1'-0"



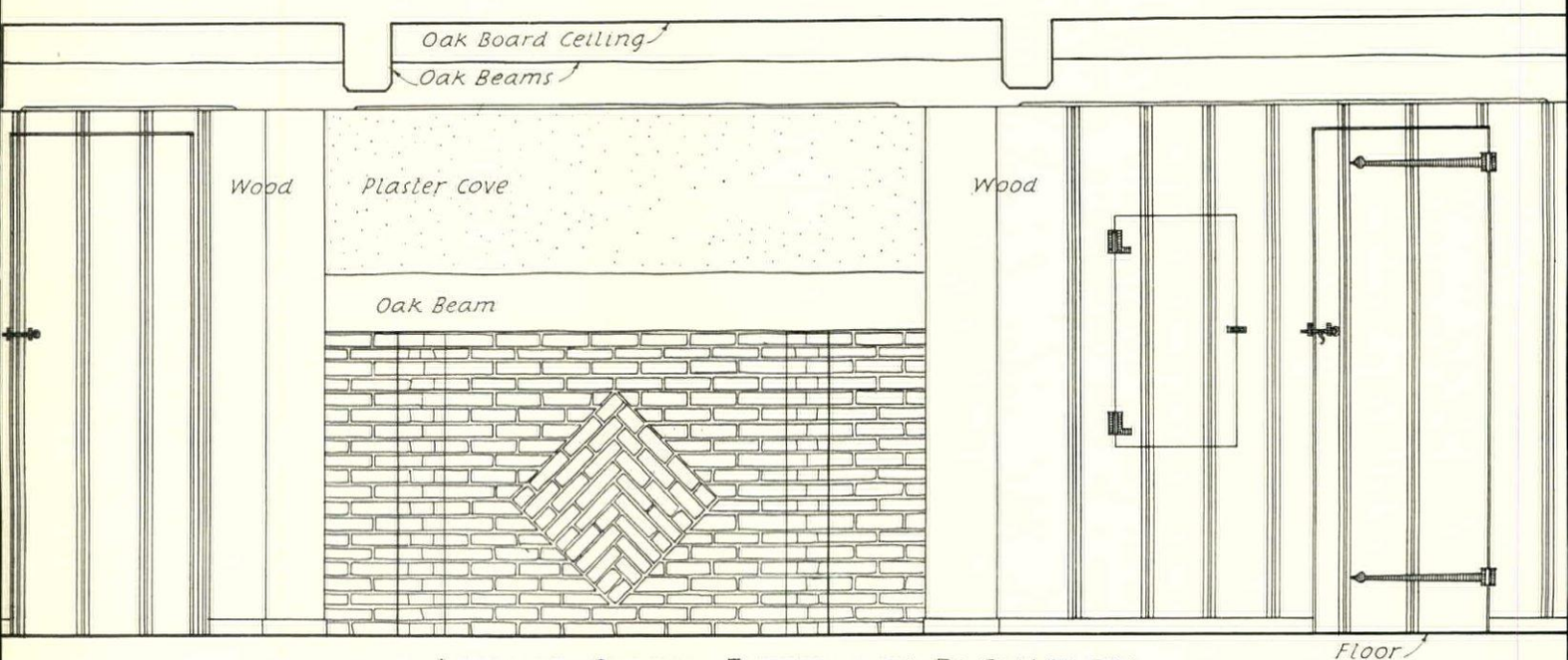


STAIR ELEVATION
Scale 3/8"=1'-0"



MAIN CORNICE
Scale 1½"=1'-0"





LIVING ROOM FIREPLACE ELEVATION

Scale 3/8"=1'-0"

THE ONE-STORY COLONIAL HOUSE

PROPERLY speaking, there is of course no style which can be given the name as written above, but there is a type of house which the title describes. Though the period of the detail may vary from the simplicity of the mid-Seventeenth Century Colonies, through the subtle grace of the American Georgian to the bold classic of the Federal, they all have one common distinguishing feature — the roof line is low, coming just above the first story. The houses may even be more than one story or a story-and-a-half high, as the house from Tennessee illustrates. But this is exceptional and is possible only because of the slope of the lot which allows three stories in a house which appears to be but one story and attic.

There are purists who cling to the belief that no design can be really worth while unless the precedent for every detail and every molding can be found to date within a well defined "period." Happily for the progress of architectural design, there are fewer and fewer of the archæologic sticklers. It is both possible and preferable that the designer catch the spirit of a style and then interpret it freely, modifying and adapting the forms which have come down through the old examples and creating new forms in harmony of scale and feeling.

Of course such a theory of design is rank "reactionaryism" to the new era architects — modernists, internationalists, functionalists, structuralists, nudists, intelligists — to whom designing in any so-called style is an anathema and even a crime. But while the new idea and the new æsthetic are percolating into the minds of the public, the prospective home owner (if any) still is sentimental enough to think that he (or probably she) likes the charm and grace of the "Colonial" house, and is even willing to spend a little of the building budget for a molding the only function of which is to cast a pleasing shadow or to enframe an opening.

So, rather than assuming the arduous task of educating the prospective client to the realities of life (architecturally speaking), and with cold logic proving the desirability of pure unadorned structure as a concrete expression of intellectual and corporeal superiority and "the best for all," many an architect is taking the easier road and aiding and abetting the client in his emotional yearnings for a home such as he (or she again) has dreamed of. "My little grey home in the west" was probably a one-story Colonial, and many an architect would prefer to humor the whims of the dreamer and give him the charm of the Colonial instead of prescribing the functional which will soon be the fashionable. After all, the building of a home is more of a sentimental journey than an intellectual adventure to most home builders, and the fact remains that Colonial, even in its worst forms, signifies Home to the general public.

Although the details of the type of house under consideration can be varied within wide limits, there are certain characteristics which it is essential to maintain. To preserve the predominant character of the house, it must hug its site; be set as close to the ground as possible. The first floor level should be as near grade as practicable and never more than two feet above it. The three examples chosen are good illustrations of this point. It is also advisable to keep the roof line or cornice low, preferably at about the level of the first floor ceiling. If it is higher, a broad frieze will help to bring the line down optically.

Another characteristic which is essential is that of the large unbroken roof surface. If there must be dormers, as in the Tennessee house, they should be as small as practicable so that the roof will remain a dominant feature of the composition. A long continuous dormer, for instance, will entirely alter the house so that it will be merely one of those non-

descript houses which fill our suburbs. To get cross ventilation in the bedrooms, it is frequently advisable to have the dormers at the back of the house. In this way the unbroken roof is preserved on the front. Dormers usually harmonize best if their roof pitch is the same as that of the main roof. We are speaking of the pitched roof, not of the gambrel, for the Dutch Colonial type of house will be considered in a subsequent issue. Shingles of wood or slate are appropriate roof materials but standing seam metal roofs offer possibilities, especially when the architectural detail is derived from the Federal period. The rake mold should always be of the utmost simplicity; a single narrow board is best for most one-story houses, unless the other detail is more elaborate.

The chimney is an important consideration also. In squat simplicity it is an integral part of the composition and must echo and enhance the mass of the house itself. A thin, wiry or too tall chimney immediately creates the impression that it is a handle by which the house can be picked up and rung like a bell. A central chimney, sturdy in proportion, is usually best although end chimneys can be used successfully.

The exterior details will depend of course on the scale of the house, but simplicity should be the keynote, as a rule. Even the door and its enframement should not be over elaborated, and it is stretching a point to use such motives as a broken or scroll pediment. To employ the more elaborate motifs of the late Georgian for a house of this type requires especially skillful handling, for one is likely to produce the effect of "too much architecture for the size of the house." Restraint marks the good design.

The decorative feature of the facade is usually the door and its enframement, creating an air of welcome. Transom lights or side lights, or both, are usually a necessary as well as an attractive feature of the entrance. Fan lights are not as well adapted to the one-story as to the two-story house, for the curve of the fan may come too close to the cornice and give an unpleasant optical bend or sag to the center of the facade. The door itself may be made interesting in pattern and panel, and even in color, though 98 per cent of houses of this type have all doors and trim painted white.

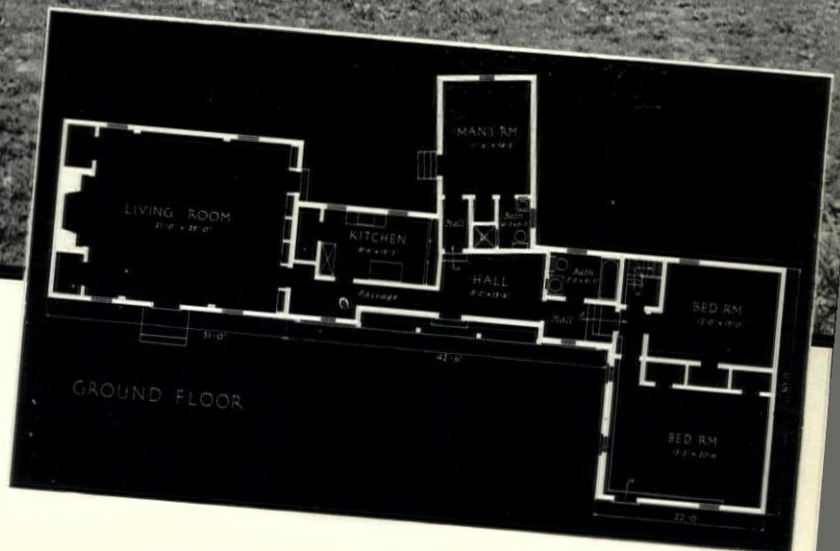
The most successful of the one-story Colonial houses have no entrance porches, and probably more houses of this type have been ruined by injudicious porches than by any other one feature. A porch breaks up the unity of the wall composition. Occasionally one finds a simple enclosed entry or vestibule successfully incorporated in the design.

Windows are almost universally double-hung with muntins dividing the sash into comparatively small panes in keeping with the scale of the house. The double-hung window, characteristic of all Georgian work, has the advantages of comparative weather-tightness, ease of opening and adjustment, and simplicity of screening, shading and curtaining. Casements, however, may be entirely fitting if the house simulates the early American. Of the detailing of windows and window frames, there is no end, but some of the examples shown throughout the present series deserve close study for their adaptability to specific conditions and effects.

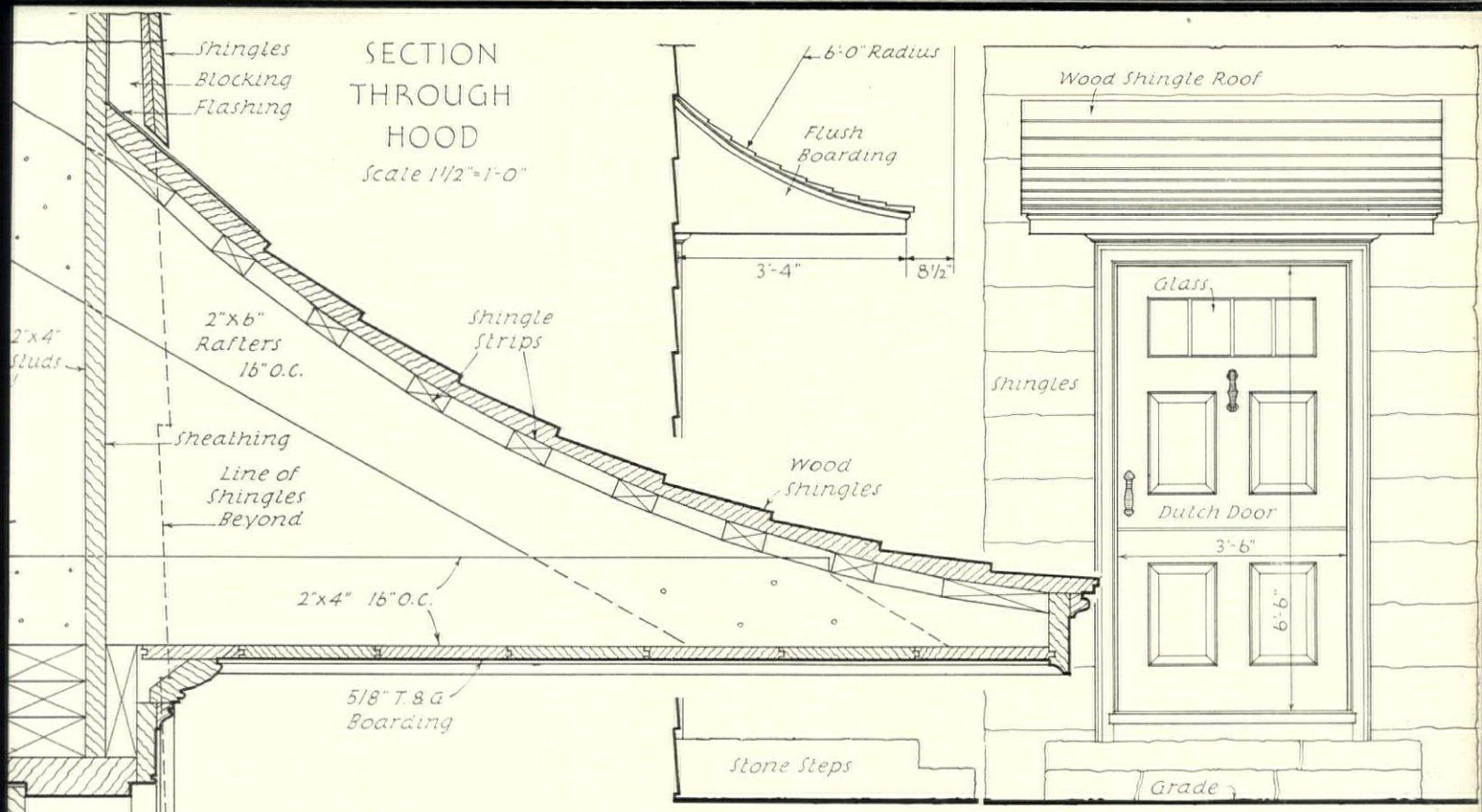
The interior details of this type of house do not have any marked characteristics that differentiate them from other Colonial houses. If the central chimney is used, the large fireplaces are the focal points of the main rooms. The fireplace wall is frequently most effectively pine-paneled, simply or elaborately, whether or not the other walls are left plastered. Cabinets, shelves and cupboards add interest without detracting from the importance of the fireplace. Corner cupboards frequently grace the dining room.

The treatment of upstairs rooms offers opportunities for ingenious solutions of the sloping ceiling problem with useful built-in closets and chests.

bling type of Early American farmhouse, as illustrated house for a Connecticut country estate, is one that finds otance among those who dislike the confining tendencies r square plan. Although room requirements for self- es would alter its character, this house has an openness y adaptable to country-suburban life.





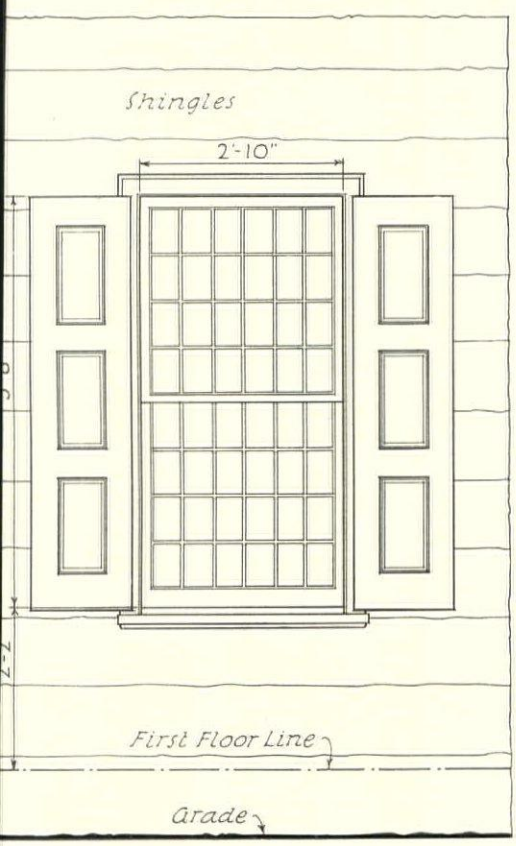


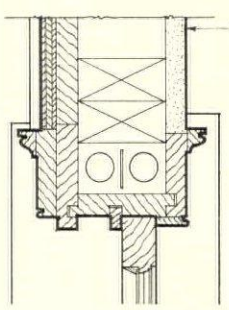
SIDE ELEVATION OF LIVING ROOM DOORWAY

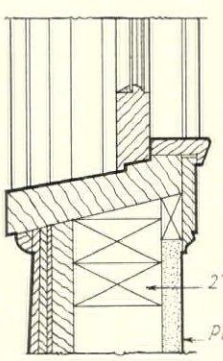
Scale 3/8"=1'-0"

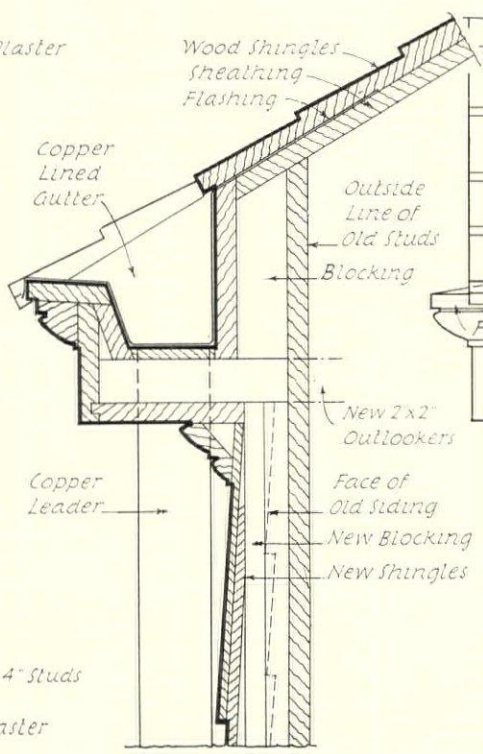


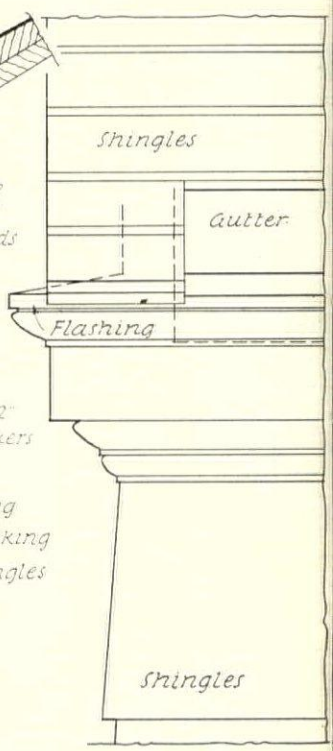
Exterior Details











YPICAL WINDOW ELEVATION

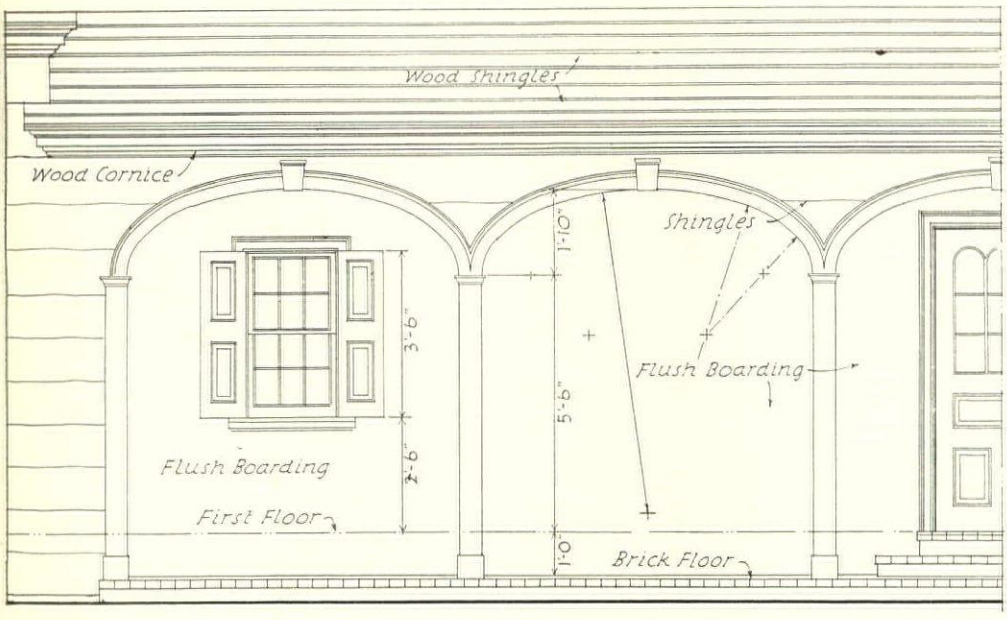
Scale 3/8"=1'-0"

MAIN CORNICE DETAILS

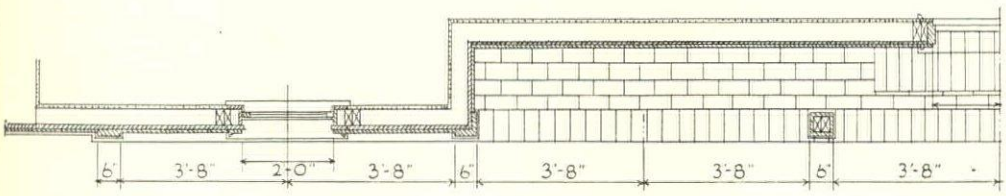
Scale 1½"=1'-0"



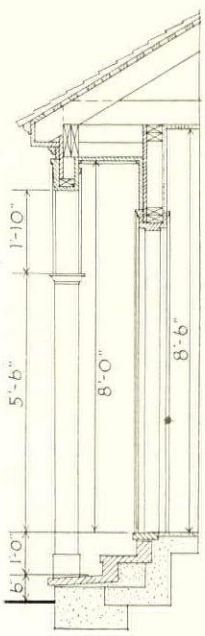
Glasgow Photos



ELEVATION

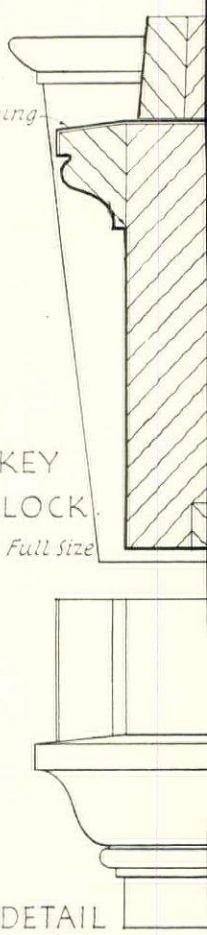


PLAN *Scale 1/4"=1'-0"*



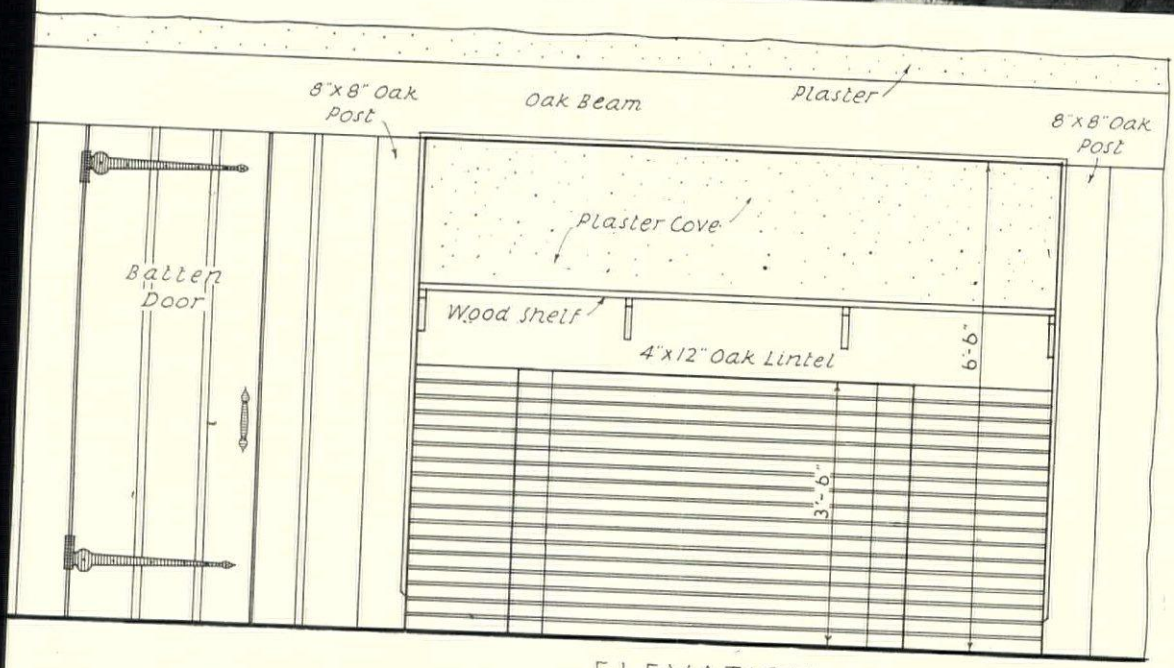
SECTION

Porch Details

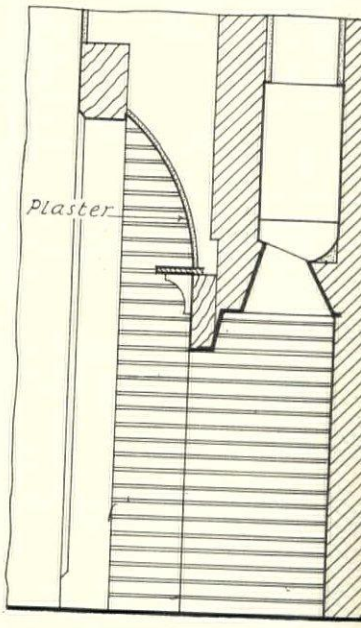


CAP DETAIL

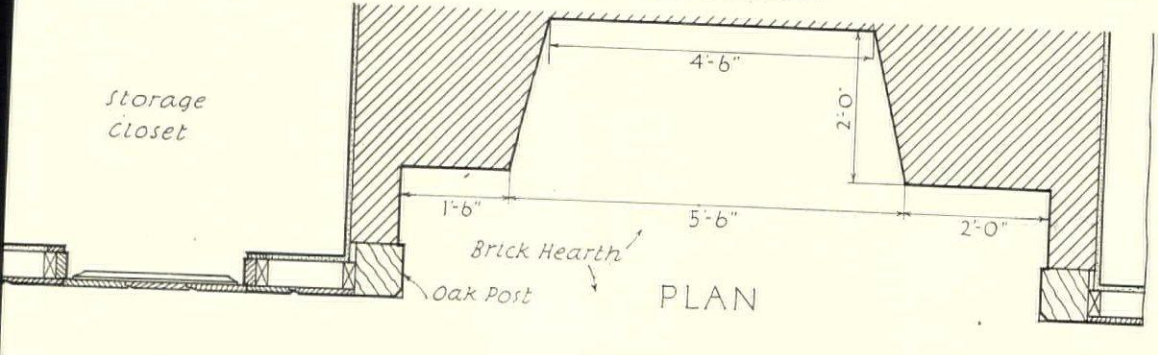




ELEVATION



SECTION

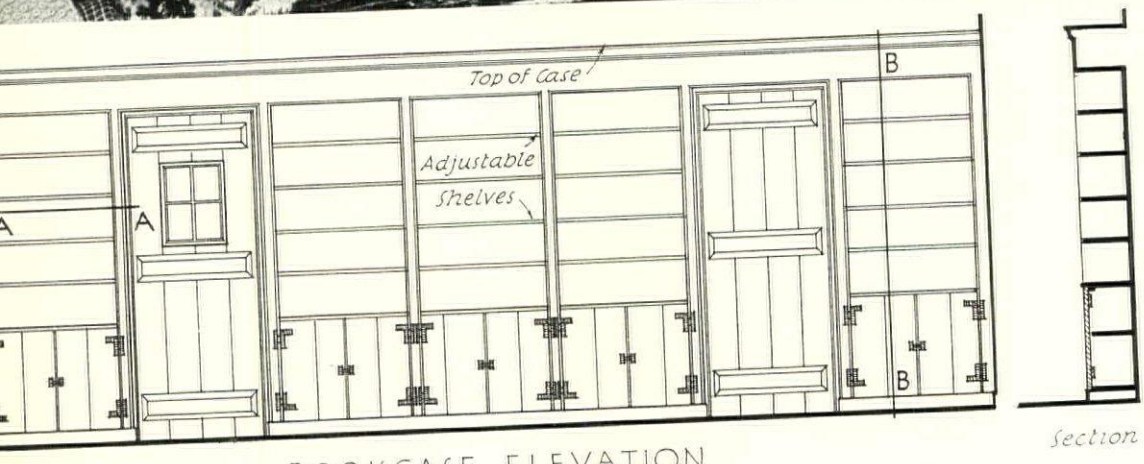


PLAN

Fireplace Details

Scale 3/8"=1'-0"



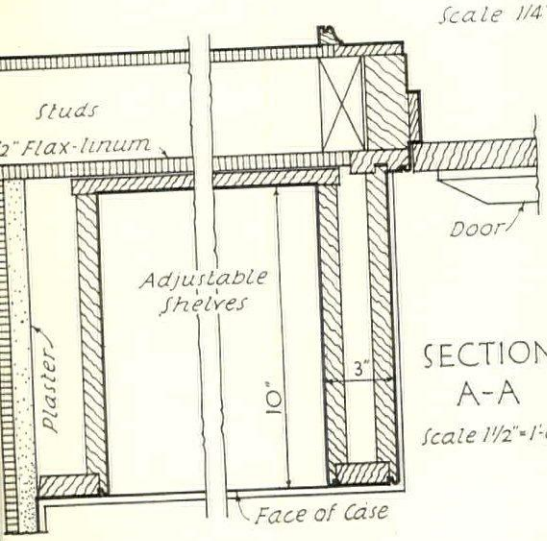


BOOKCASE ELEVATION

Scale 1/4"=1'-0"

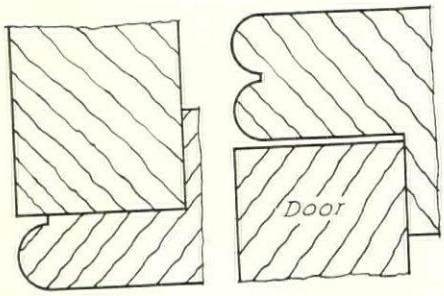
Section

Bookcase Details

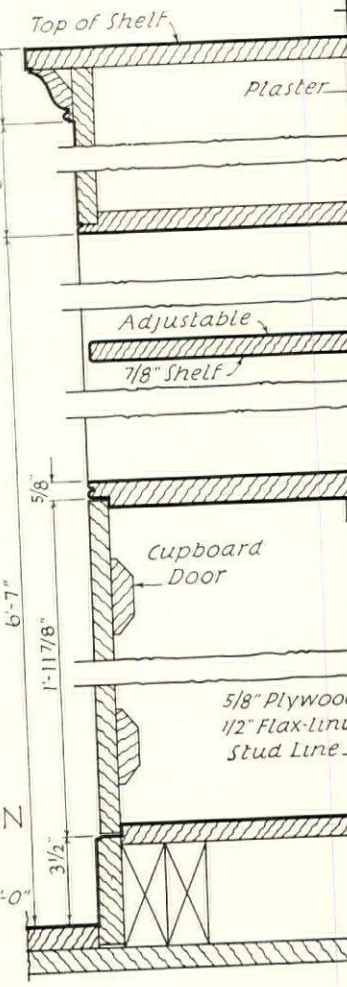


SECTION
A-A

Scale 1½"=1'-0"



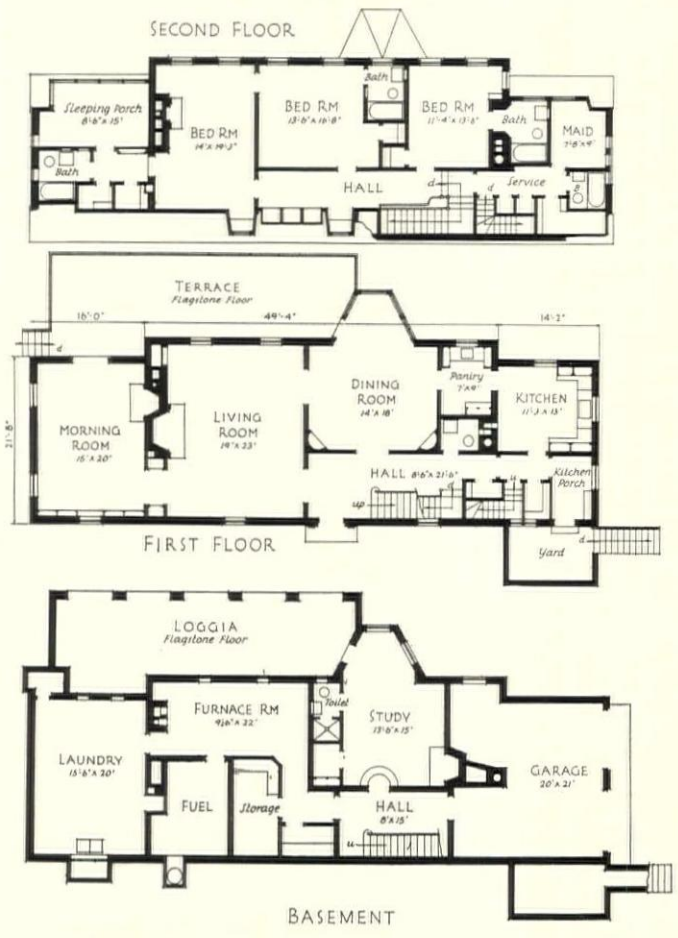
TYPICAL BEADING (Full Size)



SECTION
B-B

Scale 1½"=1'-0"



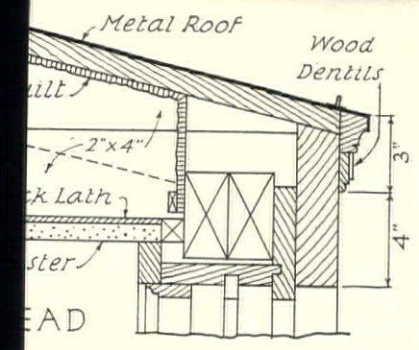


THE once marked distinctions between Southern and New England Colonial houses have, like the differences of political opinion between the two sections, largely disappeared in the adaptations of the styles today. One frequently finds a Down East house with a Southern accent, and equally often a Southern house with a Boston broad "A." A satisfying blending of the two is found in this house by Barber & McMurry, which in its plan bespeaks good Tennessean hospitality, but which has details, such as its entrance doorway, of noble New England ancestry. Built of brick with white painted wood trim, and slate roof, the house is planned to take full advantage of its sloping site. The modified formality which marks the exterior is sustained throughout the interiors

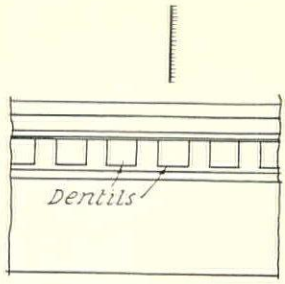


HOUSE IN KNOXVILLE, TENN. · · · · · · · · · Barber & McMurry, Architec

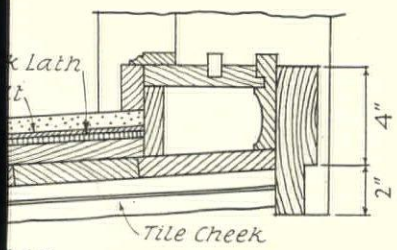
Exterior Details



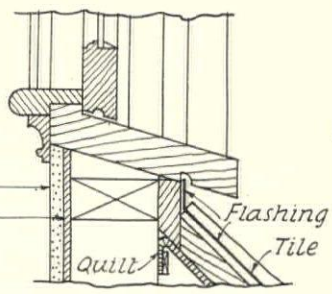
EAD



Elevation at Head

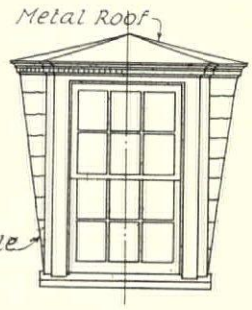


MB



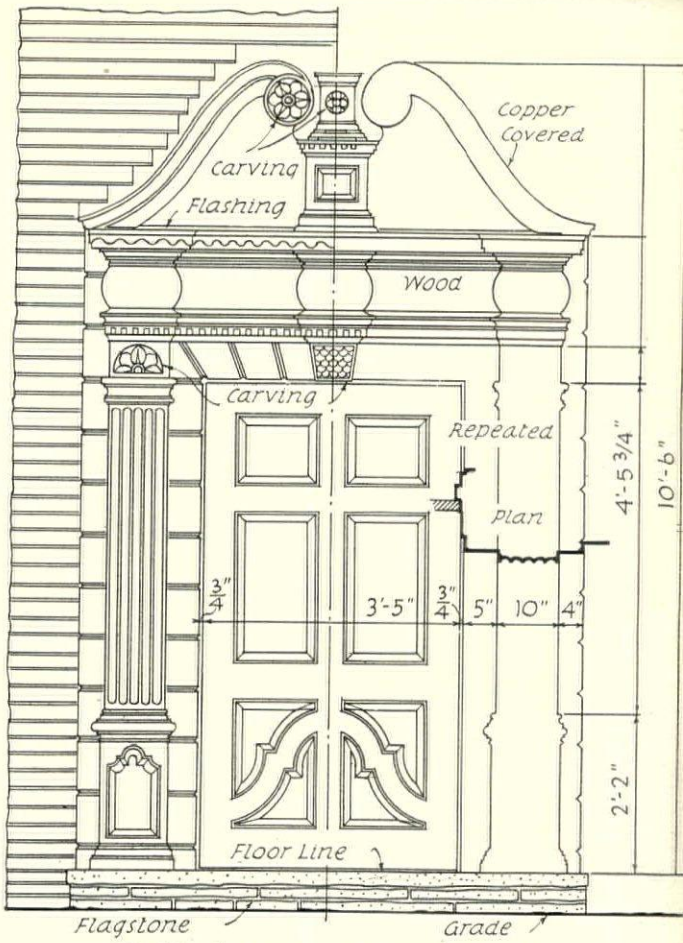
TAILS OF DORMER

Scale 1½"=1'-0"



Elevation Of Dormer

Scale 1¼"=1'-0"



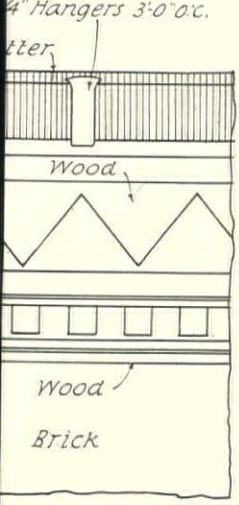
ENTRANCE ELEVATION

Scale 3/8"=1'-0"

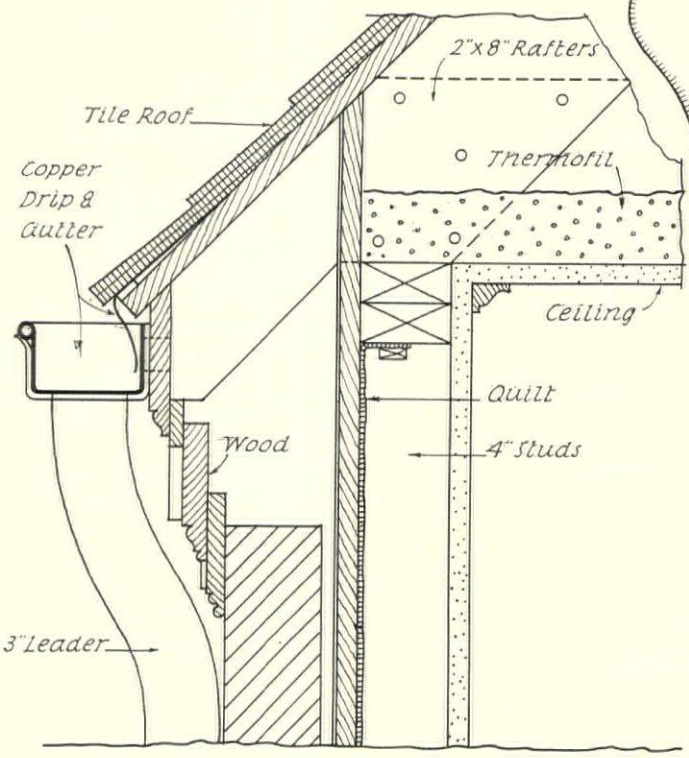
PROFILE OF MAIN CORNICE

(Full Size)

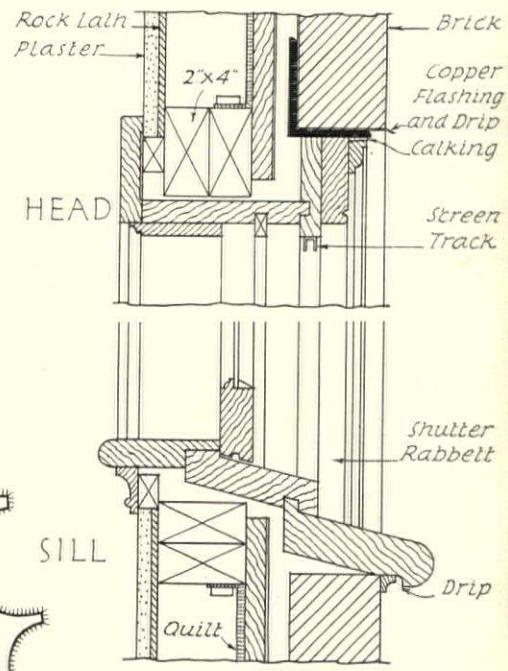
ETAILS OF
IN CORNICE
Scale 1½"=1'-0"



ELEVATION



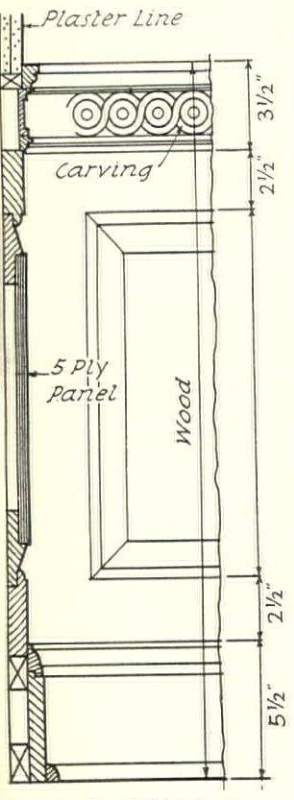
SECTION



DOUBLE HUNG WINDOW (Typical)

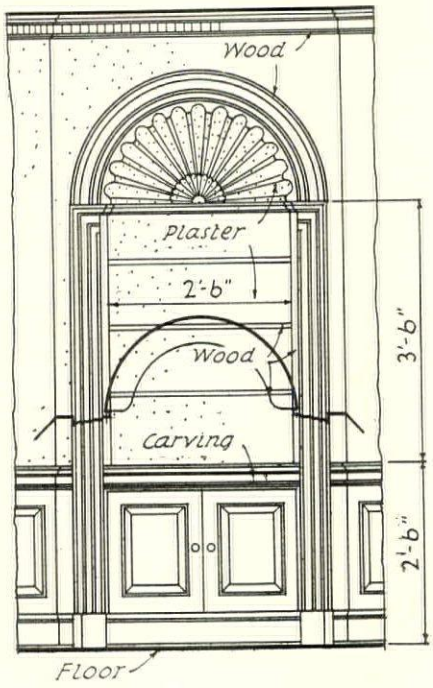
Scale 1½"=1'-0"





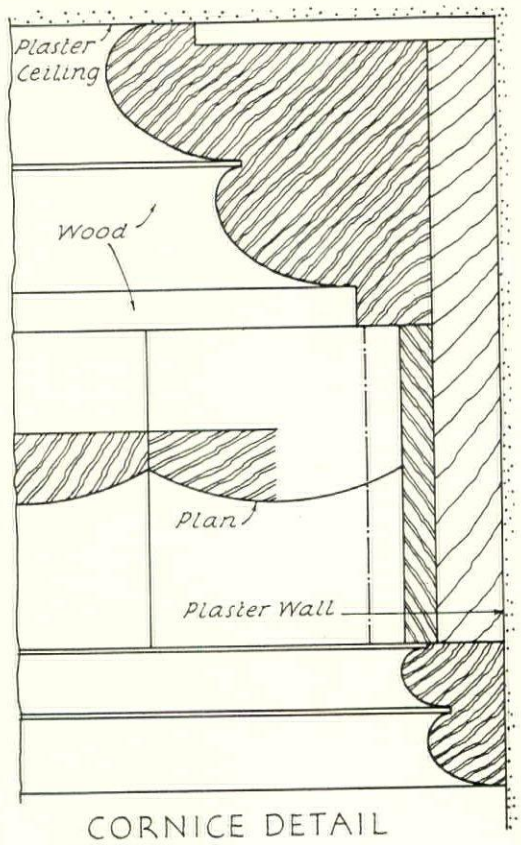
DADO DETAIL

Scale 1½" = 1'-0"



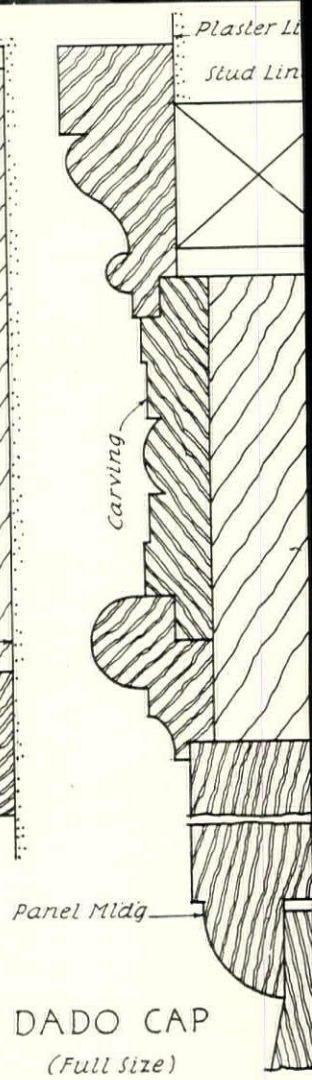
CHINA CASE ELEVATION

Scale 3/8" = 1'-0"



CORNICE DETAIL

(Full Size)



DADO CAP

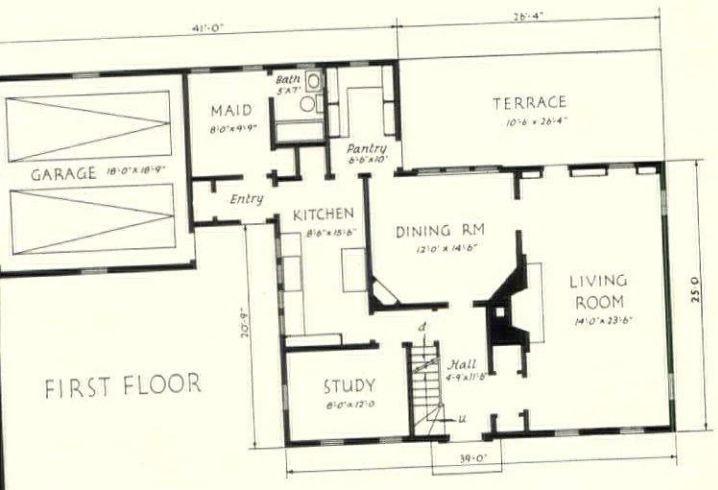
(Full Size)

Details of Dining Room



Weber Photos



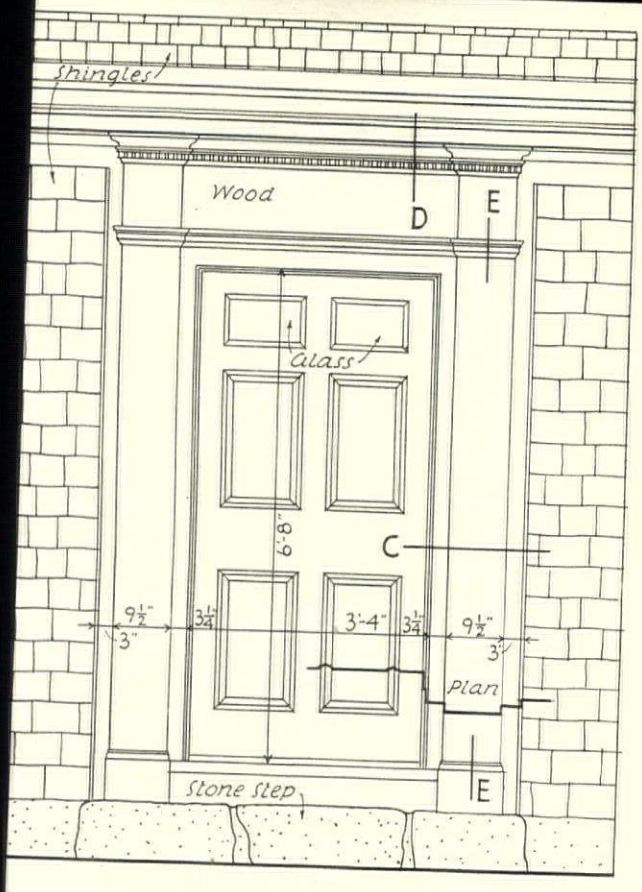


THE story-and-a-half Colonial house of Massachusetts has found its way into every State — almost every county — in a wide variety of forms, but usually most successful when its adaptation sticks close to the simplicity of the original. Such a successful adaptation has been made by Joseph D. Leland in this small house which is a part of a community designed by the firm for a Boston suburb. The walls are of wood shingles stained weather gray, and the roof is of fireproof composition shingles. Pine is used generously throughout the interiors, for trim and incidental paneling. In the living room (see details on page 375) the wood beams are left exposed. The walls are painted throughout. The house follows the general square plan of the early Eighteenth Century, with the center chimney



HOUSE IN BROOKLINE, MASS.

Entrance & Living Room Door Details

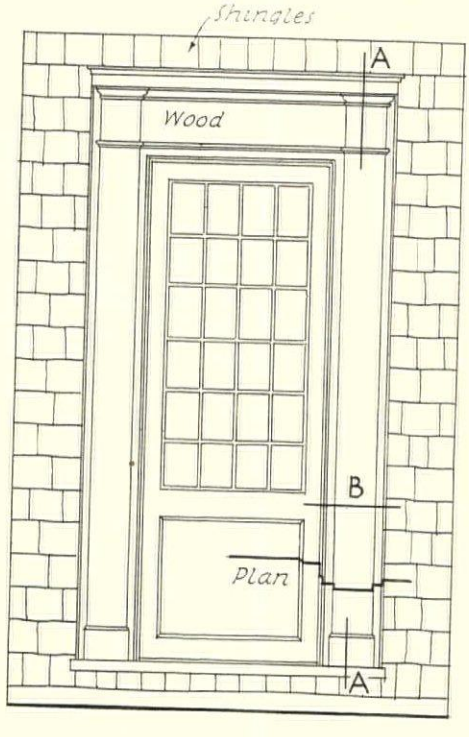


ENTRANCE DOOR
Scale 3/8" = 1'-0"

SECTION B
(Full Size)

SECTION A-A
(Full Size)

SECTION D
(Full Size)



LIVING ROOM DOOR
Scale 3/8" = 1'-0"

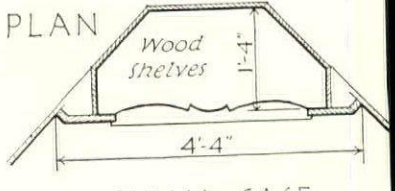
SECTION E-E
(Full Size)

SECTION C
(Full Size)

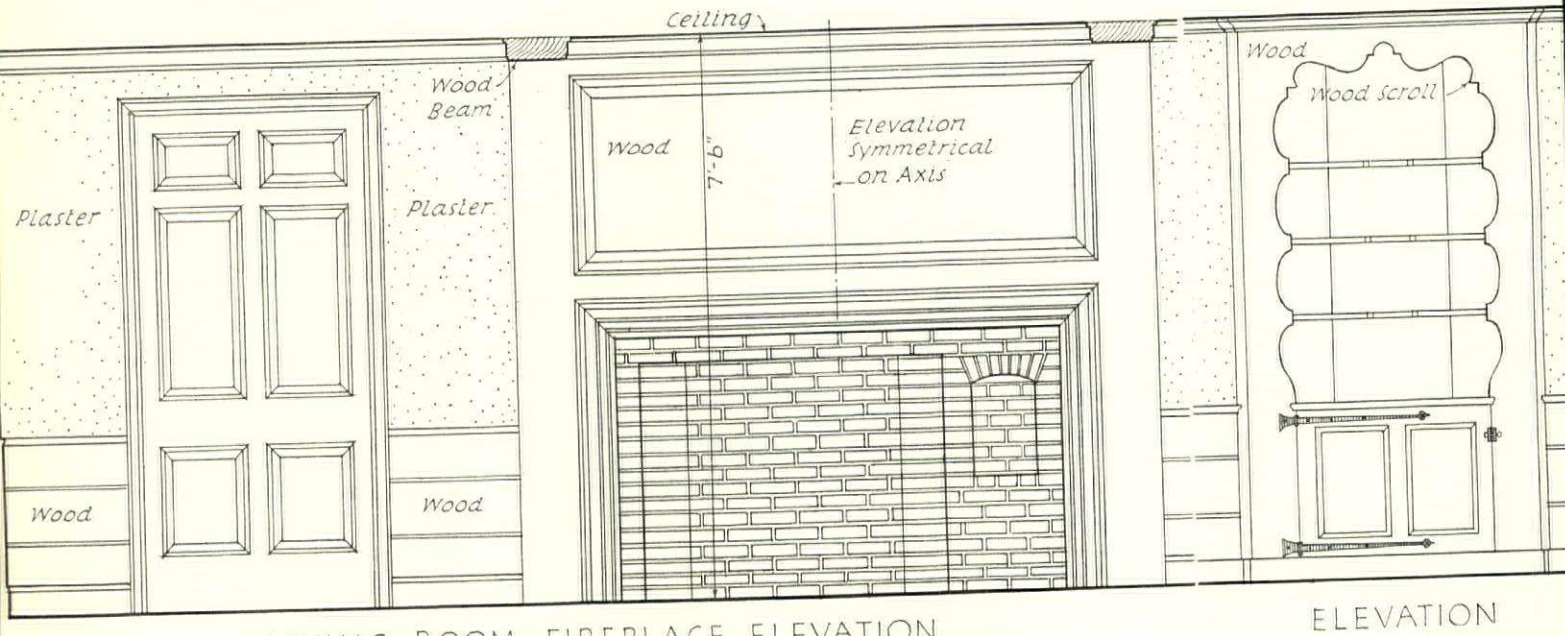
Face of Pilaster



Living Room Fireplace and China Case Details



CHINA CASE



LIVING ROOM FIREPLACE ELEVATION

Scale 3/8"=1'-0"

ELEVATION

Scale 3/8"=1'-0"

THE ENGLISH HALF-TIMBER HOUSE

BY LEWIS H. BOWMAN

In the classification of architectural styles for a home, it has been a custom, both lay and professional, to designate by the name of a country all types and kinds of buildings that have been produced within its boundaries. Hence, we can call this half-timber work "Early English." The confusion in style nomenclature, the lack of historical knowledge on the part of the designer, and the mistakes made in the selection of harmonious details, are responsible for numerous houses that might better have been attempted in a more easily construed style of architecture.

There has been a too conglomerate use of all the types of construction and a too varied use of materials, giving the impression that the designer wished to use all the details he knew on one house. The results consequently are startling, and when compared with the rationally constructed originals show a decadence in design that is most unfortunate.

This article will briefly cover a few points relating to English work based on precedents erected before the Eighteenth Century; work that we are accustomed to call picturesque, in contrast to the more formal design of the later era.

To my knowledge, no evidence has been found to lead us to believe that these pre-Eighteenth Century builders were consciously making their houses picturesque. They merely followed the trend of the times, and as usually at least a century elapsed before a pronounced change in details became the fashion the builders had ample time in which to correct errors of design or proportion, and to develop the full possibilities of their type of structure.

As communication was difficult, roads bad and the transportation of materials practically impossible, sectional styles were developed and the materials used in construction were those of the locality.

Therefore, in the chalk districts, which lay near the sea, the houses were of chalk rubble, well plastered with a natural plaster, and washed with a natural lime wash, and the roofs were of a reed or marsh rye thatch. In the Cotswolds, stone, easily worked and quite soft, was a simple material for walls, and this also could be split into roof slabs. The country around London produced little stone, but the timber in the ample forests was available. As there was clay in the neighborhood, brick and tile were almost universally used for masonry.

The results are "More English than England" and lead one to wish for a more studious consideration in the use of the details of this era.

A natural question that is asked many times is "What are the advantages of the English style? I like the informality, the homelike appearance, but have they an advantage over the formal styles?" I believe the answer is entirely one of personality. To live with the surroundings that are the characteristics of a Tudor or Jacobean house, one should feel at home with the style and prefer it to a more formal environment.

The actual advantages of the informal English house over a formal style are very apparent. The flexibility of plan and the disposition of rooms can be developed irrespective of the symmetry of the facade. Gables can be placed practically at will to give ample window space, and short extensions permit rooms with three exposures. Bay windows, the desire of every housewife, are an asset, and not the liability they prove in a formal design.

If properly built and with good materials, there is less maintenance on a house designed in the early English manner for the natural aging enhances its

appearance. The exterior woodwork, once it has been thoroughly treated, should be allowed to weather, and the sash needs but little paint.

The interiors of these houses also require little renovating. The slate and tile floors, which look better bare of rugs, and the plank oak floors, which cannot discolor, are very practical. The oak woodwork is not easily marred by an errant Kiddie-car or vacuum cleaner. Barring mishaps, the wavy and glazed plaster looks as well after a generation of use, possibly better.

Due to the development of a practical rolling screen, the old problem of the interference of hinged screens with draperies is non-existent. The flexibility in grouping casement windows also permits decorative effects both inside and out that one cannot achieve in the formal house.

However, there are many pitfalls in designing a house such as we are discussing, and the inexperienced designer and builder will learn them to his sorrow.

The large and stately chimney stacks, so characteristic of this picturesque style, may leak at every break and joint, and the use of lead or copper with a lavish hand at critical points is therefore absolutely necessary.

The older houses had thicker walls, as the lime-mortar masonry had not the strength of our modern portland cement. In our thinner walls we are compelled to put flashings over all windows and openings.

Half-timber is potentially a very sieve, but if constructed with the idea of inviting the water through it, and then providing for its exit, no harm will result. In Europe it is found that timber properly treated before erecting has lasted for centuries, provided there is no place for absorbing the water.

Half-timber should be at least two inches thick to prevent splitting, curling and pulling away. If this heavy timber work is flashed at all horizontal points and backed up by the use of heavy waterproof felt on the sheathing, little trouble will occur (see detail, page 383). The wood will naturally shrink from the brick or stucco, but after a few summers the wood will have completed its shrinking and repointing will close the joints.

The least expensive exterior finish is of course stucco on concrete on cinder block. The advance in the manufacture of waterproof stucco allows the construction of an impervious surface, and if the walls inside are furred, no leakage troubles will develop. However, except for small structures or houses that belong to the glorified cottage style, stucco surfaces are hard to treat. In the portion of England that produces such houses, these are usually of one or one-and-one-half stories and ramble around the barnyards and along the village streets, with the contrast of low walls and high roofs, making them cling to the very earth.

If a house must of necessity be a full two-and-one-half stories in height, the problem is more easily solved in stone or half-timber, combined with either brick or stucco.

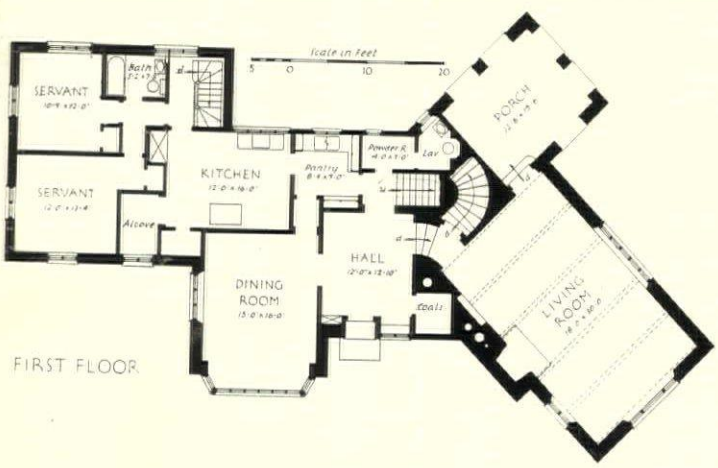
Another difficulty in adapting the rural English details to our modern conditions of living is that of low ceilings. Presumably for ease in heating, the ceilings were unusually low, considerably lower than we are accustomed to and prefer. Also the windows are individually much smaller in dimension. In fact the scale of some of the best examples of old work is so small that it is extremely difficult to retain the charm of the old proportion when similar details are used today.

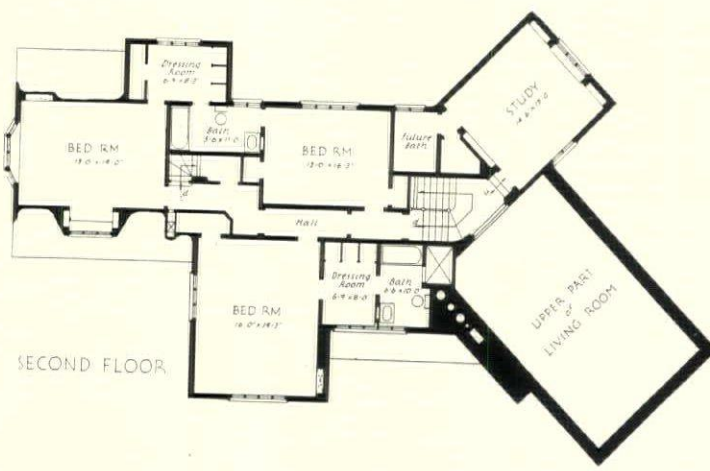
Another subtle and elusive point is that these older details are more in the nature of handicraft than of architecture, and to observe where crudeness ends and skill is displayed requires the highest form of discrimination in design. I have found that mere drawings and details are not enough for their execution, and personal direction in the use of the tools themselves is necessary. The older craftsmen very seldom brought their woodwork or stone to the perfect finish of the later periods, and their uncanny skill in stopping at the right time is one of the most difficult traits to instill into modern craftsmen, but understanding supervision gets results.

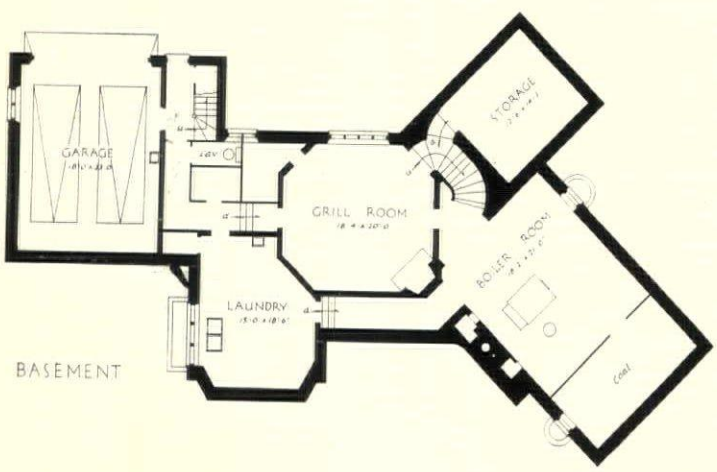
In no other style is it possible to use the great welcoming fireplaces that are possible in working with this period, and to envision a "Great Hall" in any other form of precedent is almost unheard of. And old oak can never assume such character as it does when used in the Tudor and Jacobean manner.





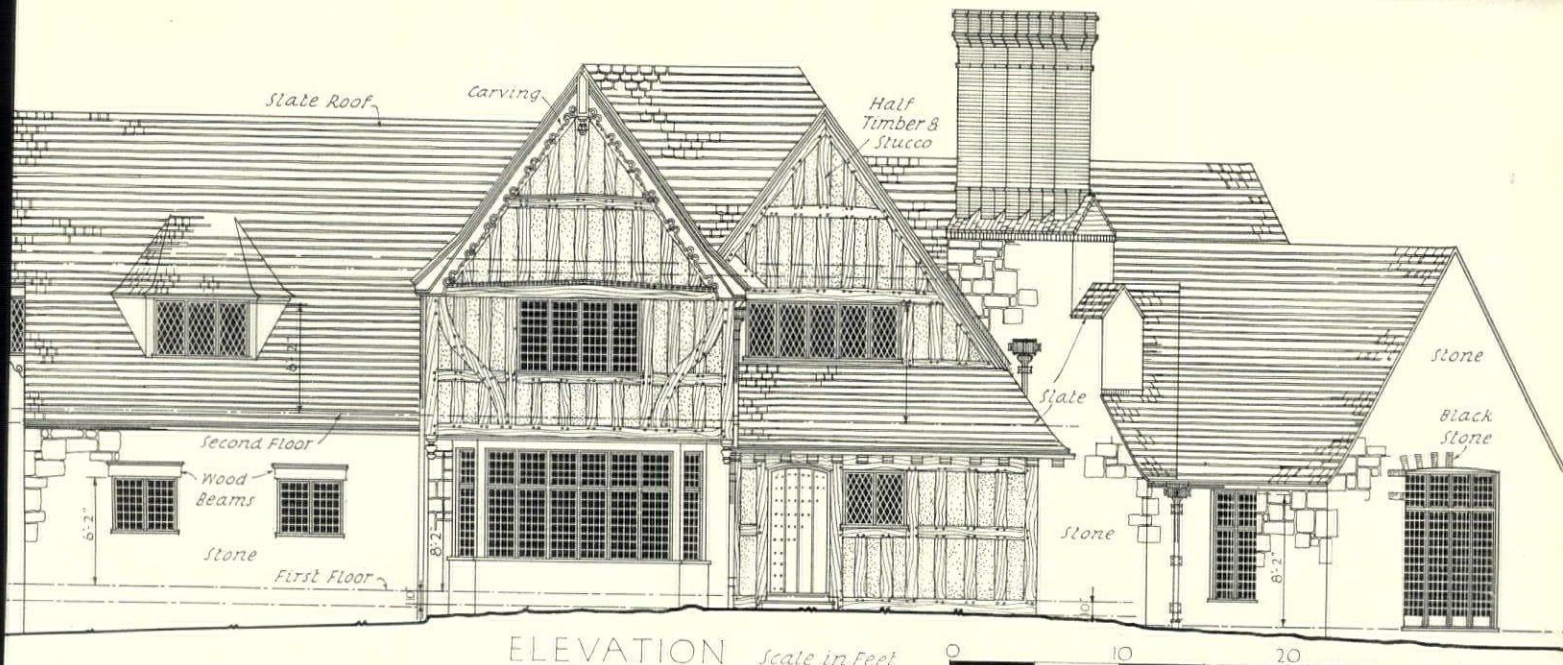




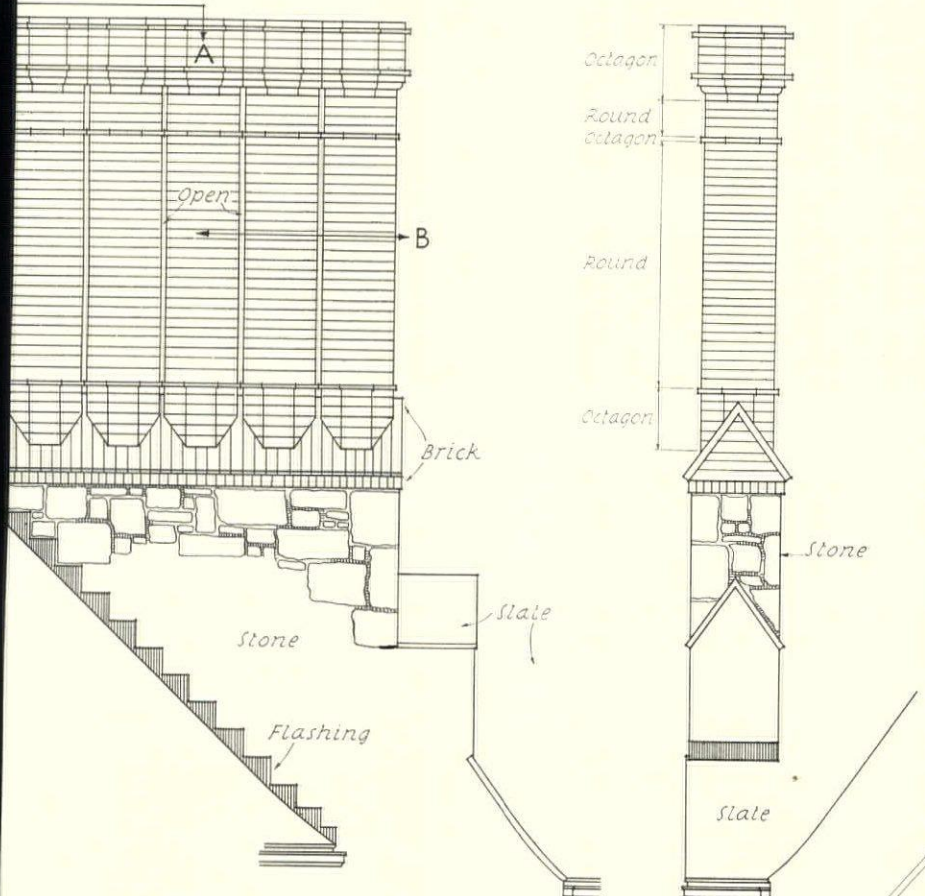


The adaptability of English precedent of the Tudor and Elizabethan periods to American conditions is splendidly demonstrated by this house designed by Lewis Bowman. Particularly noteworthy is the appropriateness of the style to the setting, for the flexibility in planning utilizes to the full the natural advantages of the topography of the site. Every convenience for modern living is provided

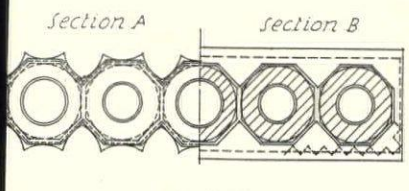
Exterior Details



ELEVATION Scale in Feet 0 10 20



ELEVATION

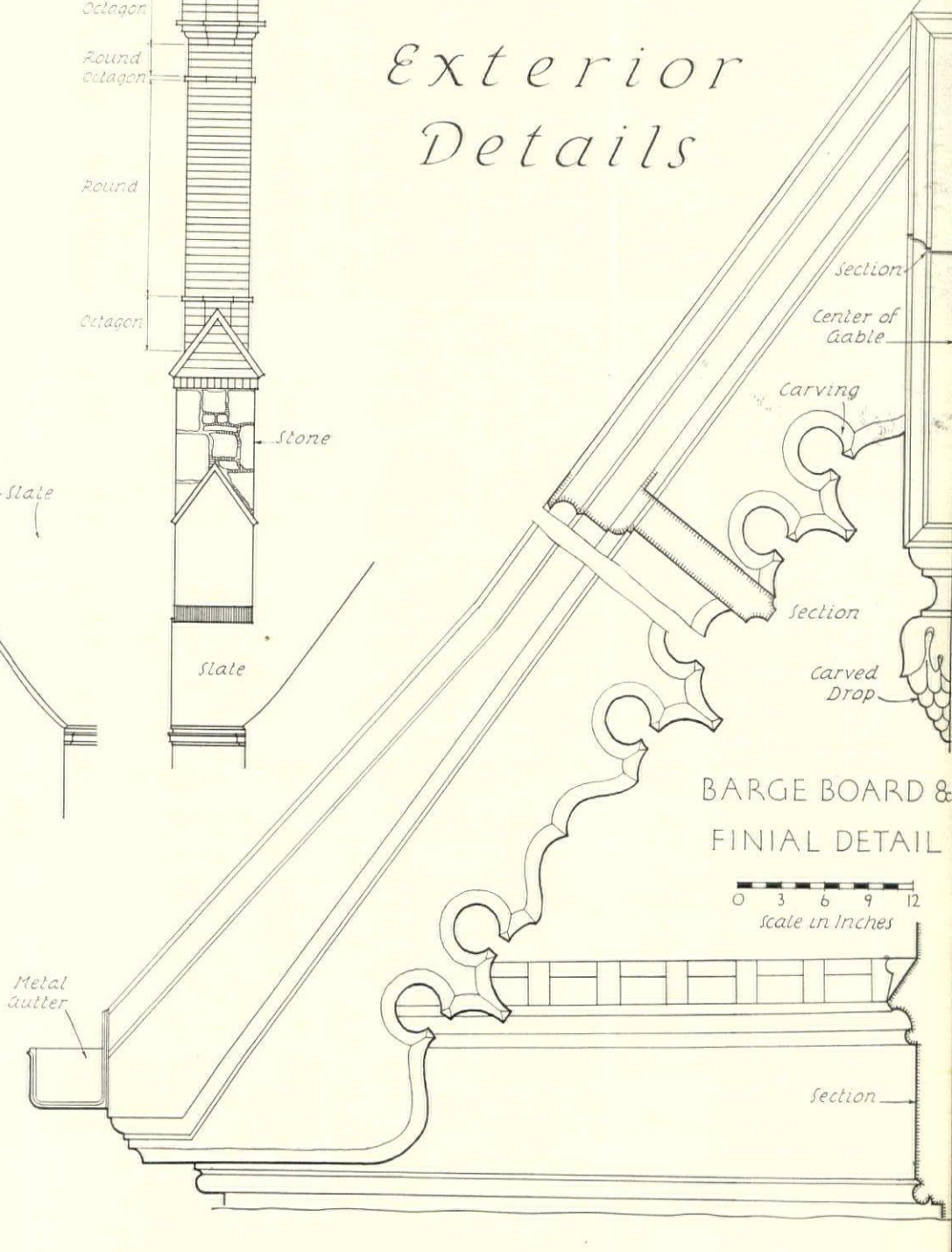


PLAN

DETAIL OF CHIMNEY

0 2 4 6

Scale in Feet

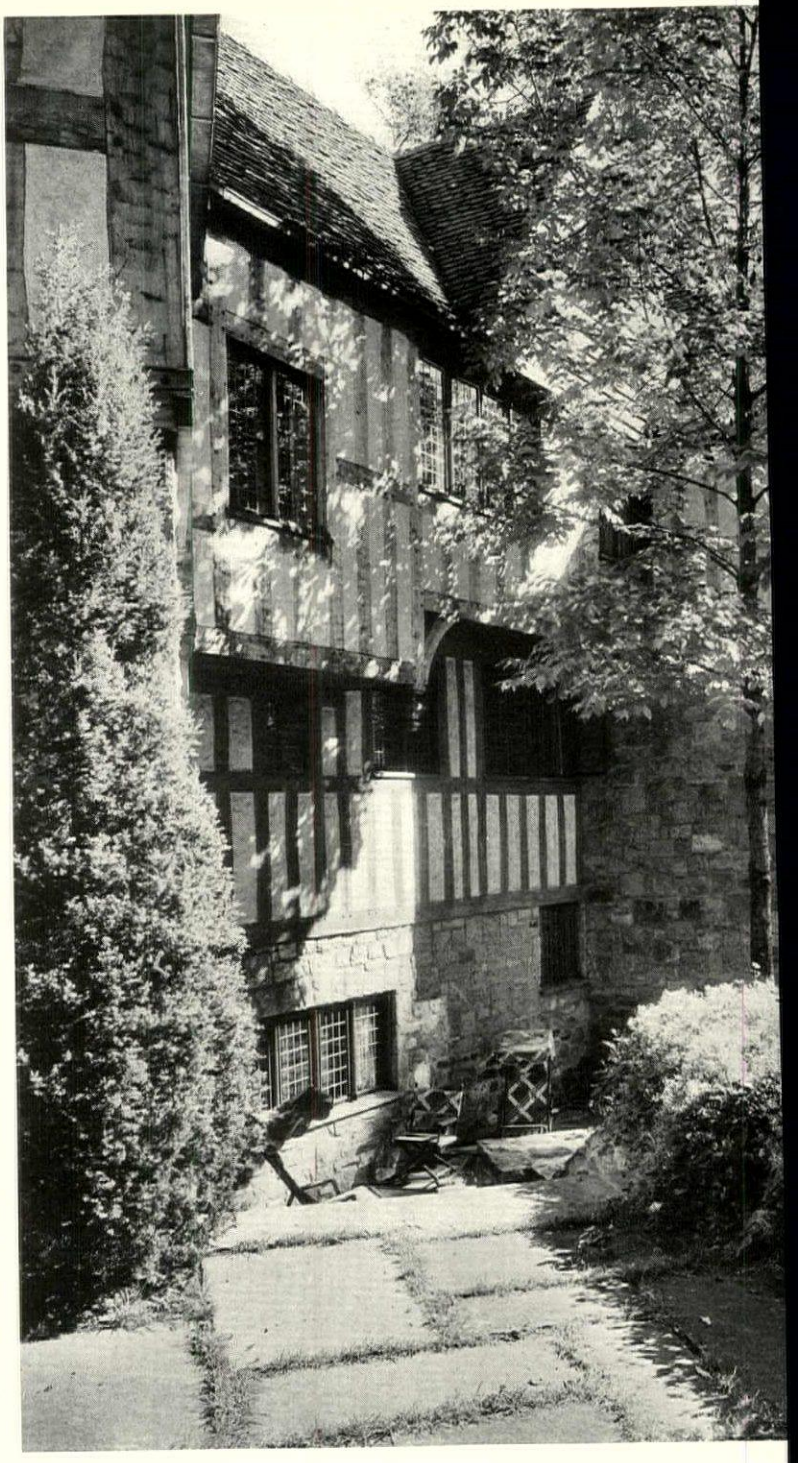


BARGE BOARD & FINIAL DETAIL

0 3 6 9 12

Scale in Inches

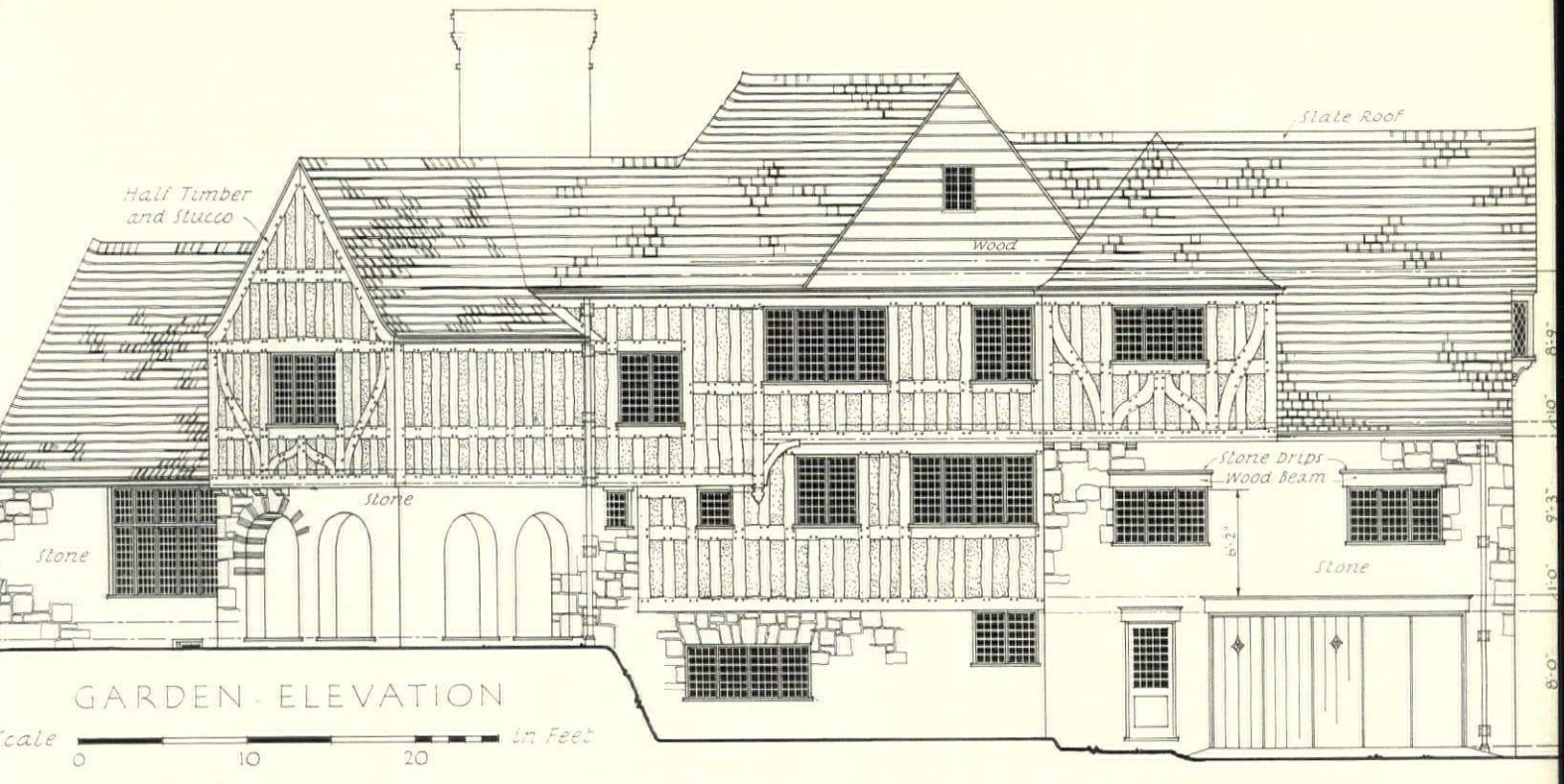




Glasgow Photos

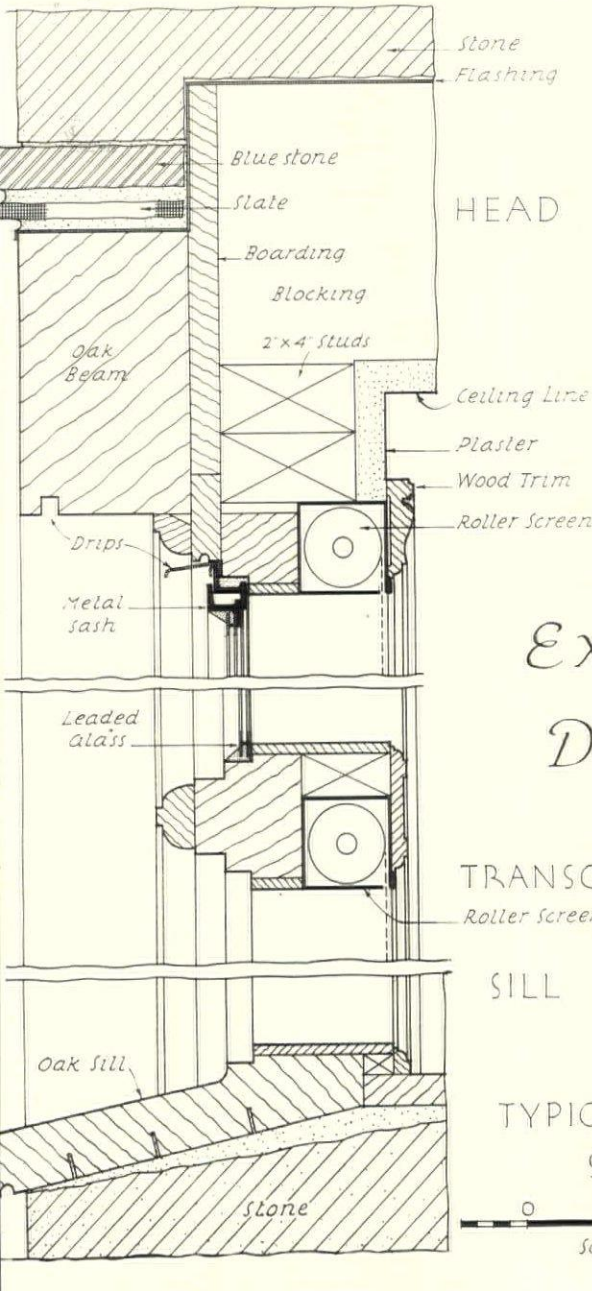
Stone, half-timber and stucco are here used with understanding and straightforward simplicity. The arched porch looks out over a terrace some ten feet below, as shown in the view at right. This, combined with the flagged terrace in the foreground, makes an ideal spot for outdoor living

From the portico (in view at left) one looks down into this protected but open terrace which lies below the first floor level. In the treatment of this facade, with its reminiscent overhang and the irregular fenestration, the possibilities of ingenious treatment offered by the style are fully realized



GARDEN ELEVATION

Scale 0 10 20 in Feet



HEAD

TRANSOM

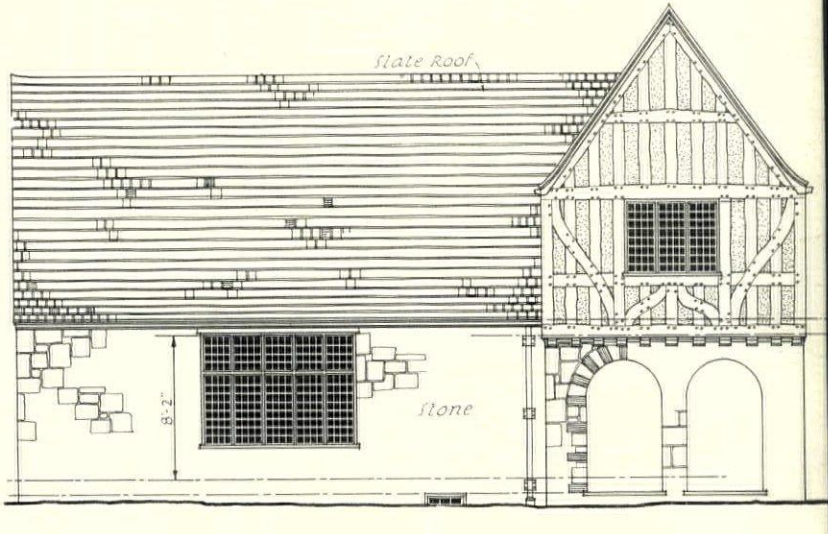
Roller Screen

SILL

TYPICAL WINDOW SECTION

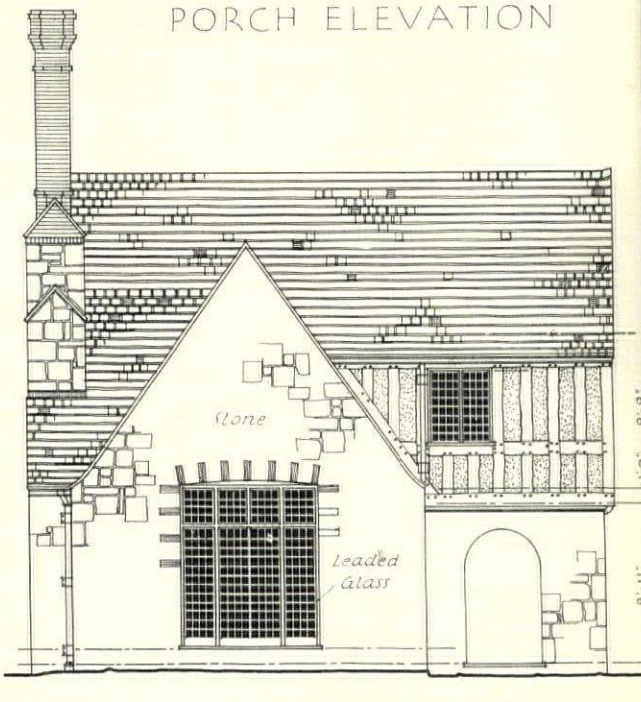
0 5

Scale in Inches



PORCH ELEVATION

Exterior Details



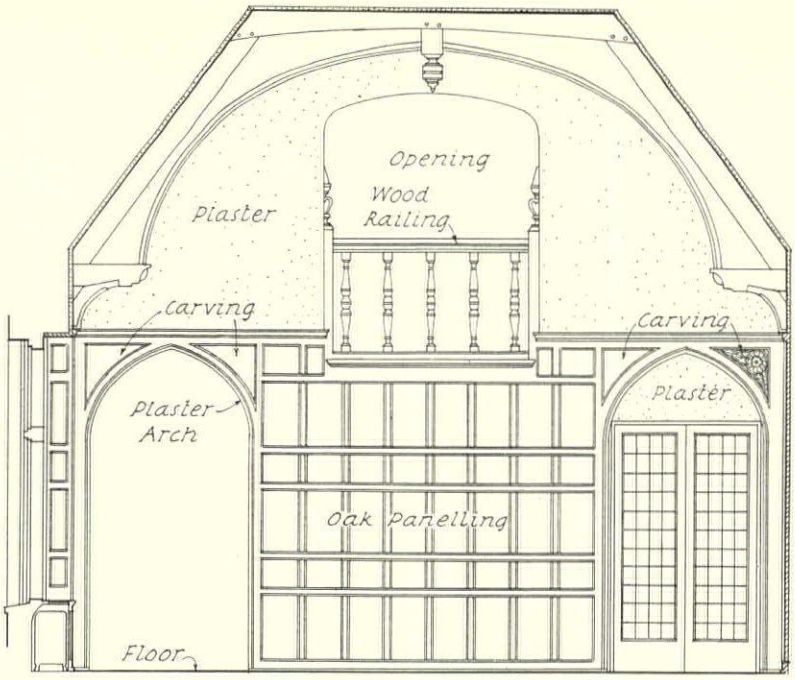
LIVING ROOM END



HOUSE IN BRONXVILLE, N. Y. . . . . Lewis H. Bowman, Archit

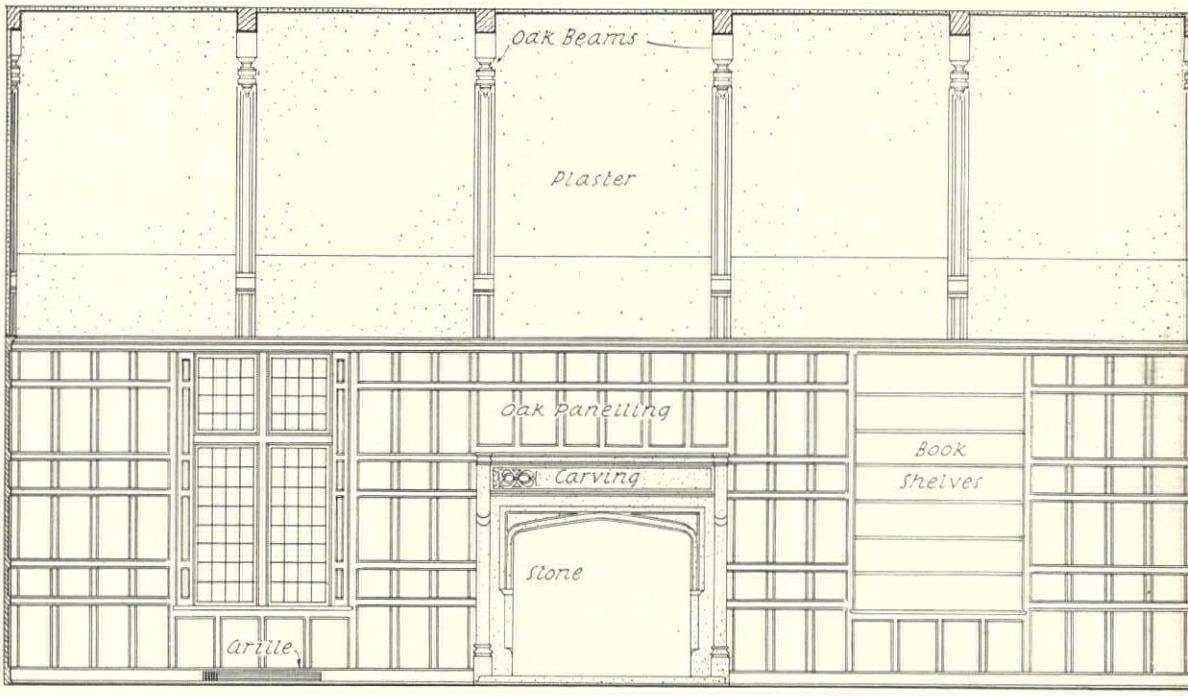
Line of Plaster Wall

Details of Living Room



ELEVATION TOWARD ENTRANCE HALL

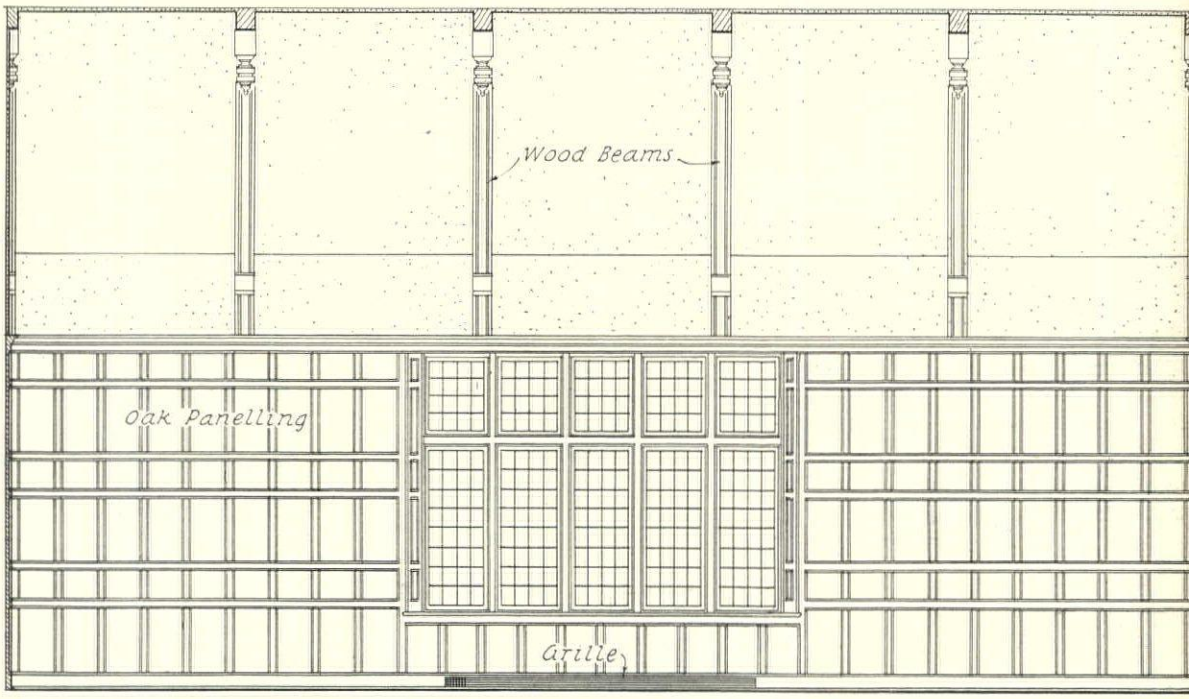
Scale for Elevations
0 5



ELEVATION TOWARD FIREPLACE

WALL SECTION

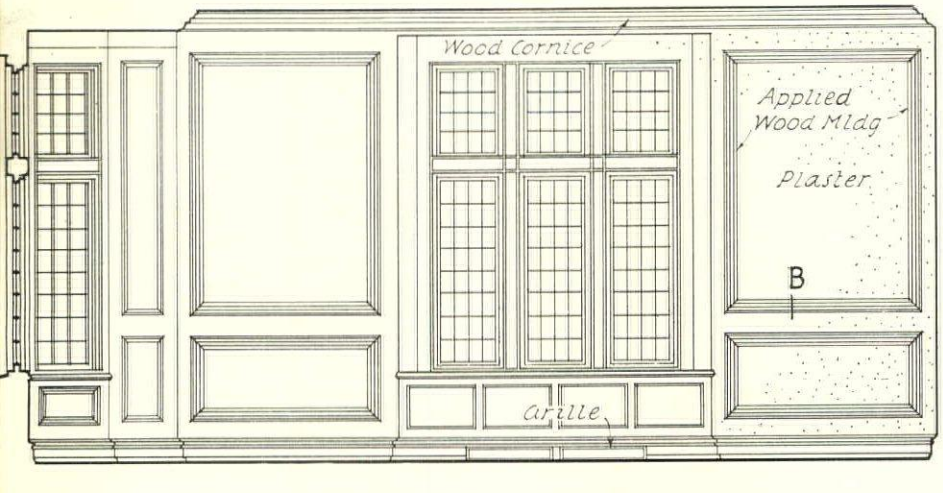
0 1 2
Scale in Inches

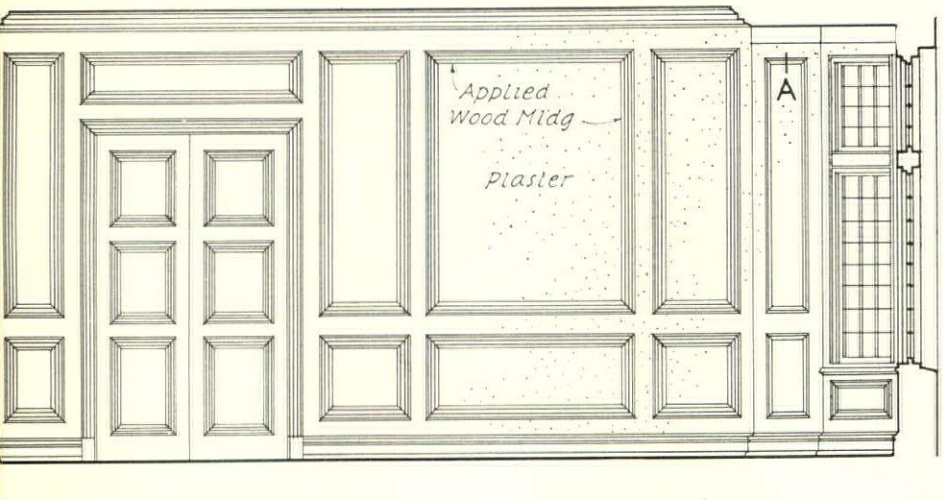


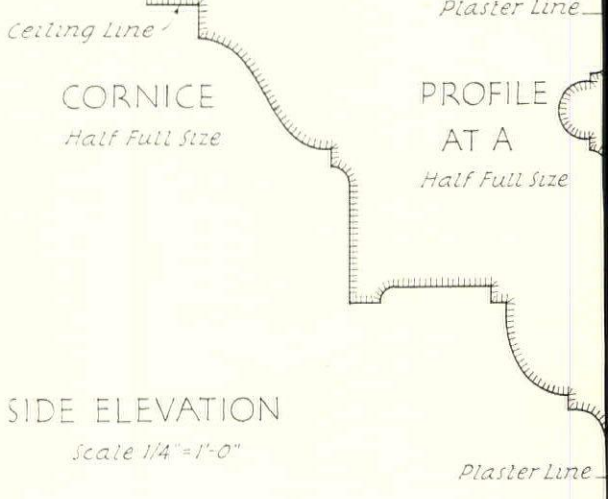
ELEVATION OPPOSITE FIREPLACE

Floor Line









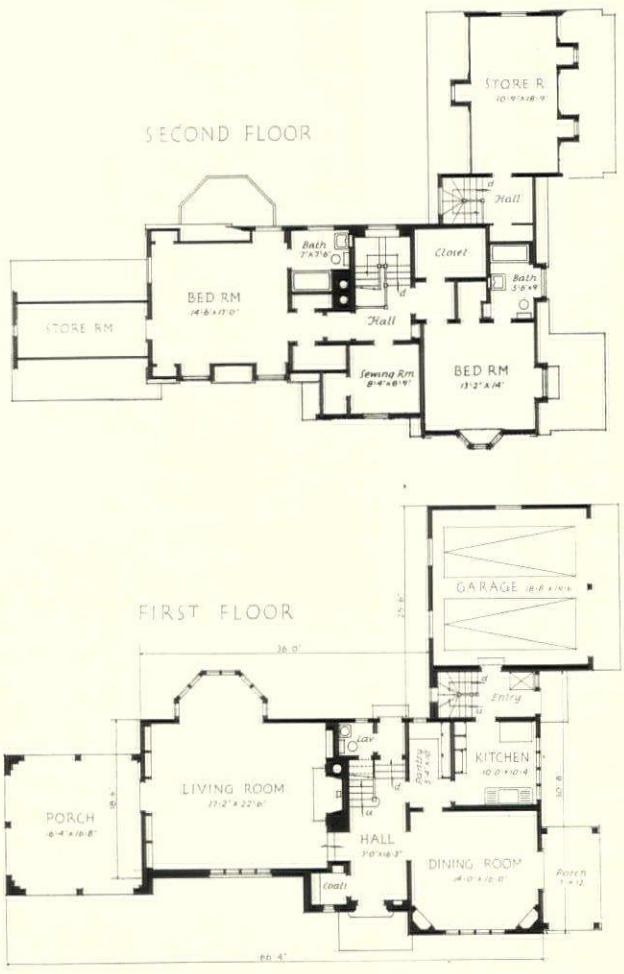
SIDE ELEVATION
Scale 1/4"=1'-0"

Details of Dining Room

SIDE ELEVATION
Scale 1/4"=1'-0"

PROFILE B
Half Full Size





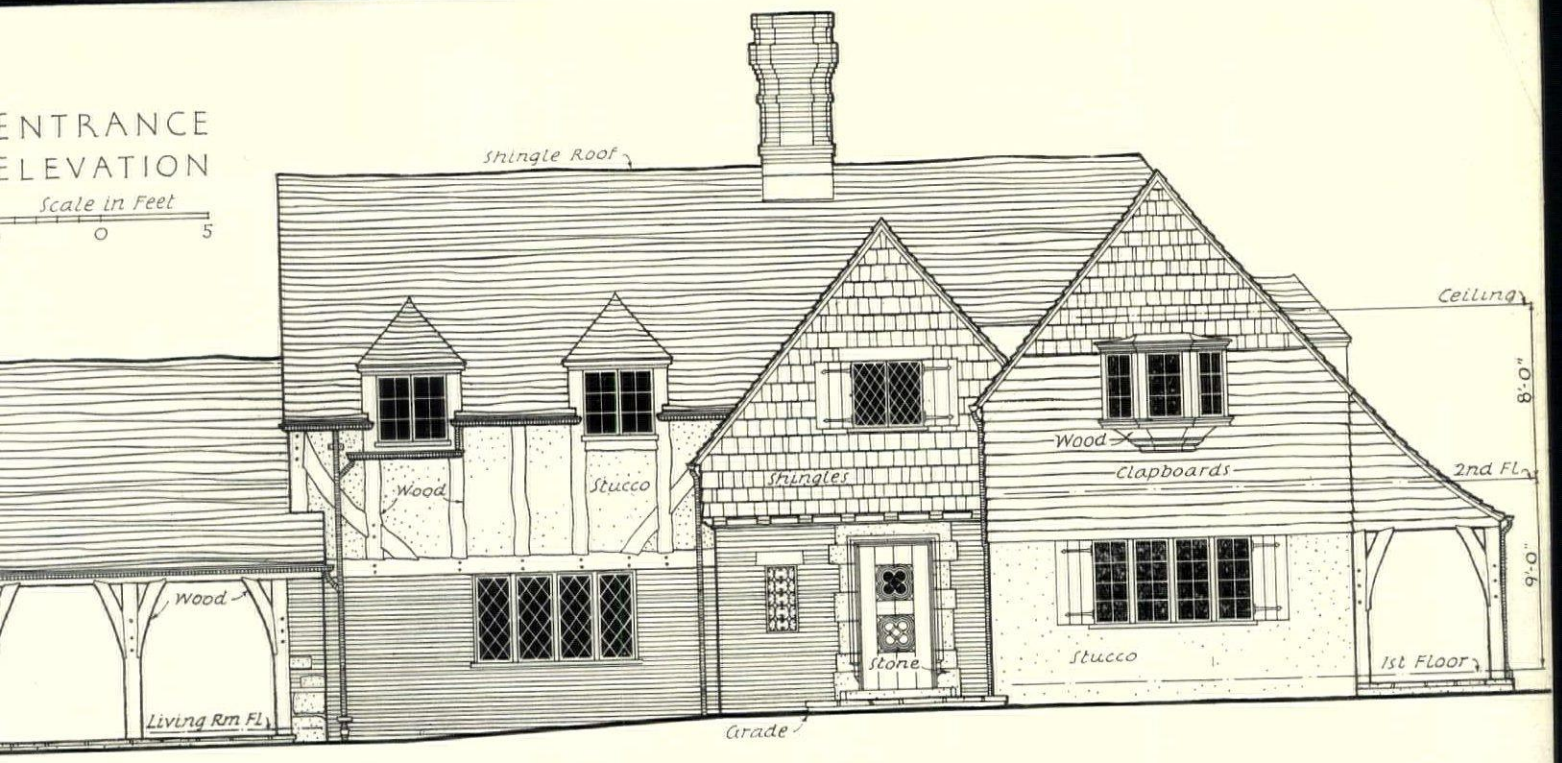
THE inherent freedom of the English half-timber house is its greatest charm, and its gravest danger. It can go further wrong than any other type of house in the hands of an incompetent designer. In this residence by Lawrence Licht, we have an example of free use of materials in a liberal interpretation of the style. The walls are stucco, brick, clapboard and shingle with stone trim around the entrance, and yet all compose into an attractive facade. The roof is shingled. Batten shutters, leaded casement windows, and rough finished wood posts supporting the side porches complete the composition. The interiors are finished in complementary fashion. Oak floors are used in the major rooms and halls. The living room walls, one of which is presented in detail on page 391, are plastered and painted white. A colorful scenic paper covers the walls of the dining room, and the bedroom walls and halls are papered and glazed. The house has a cubical content of 40,800 cu. ft. and could be built today for less than 40 cents per cu. ft.



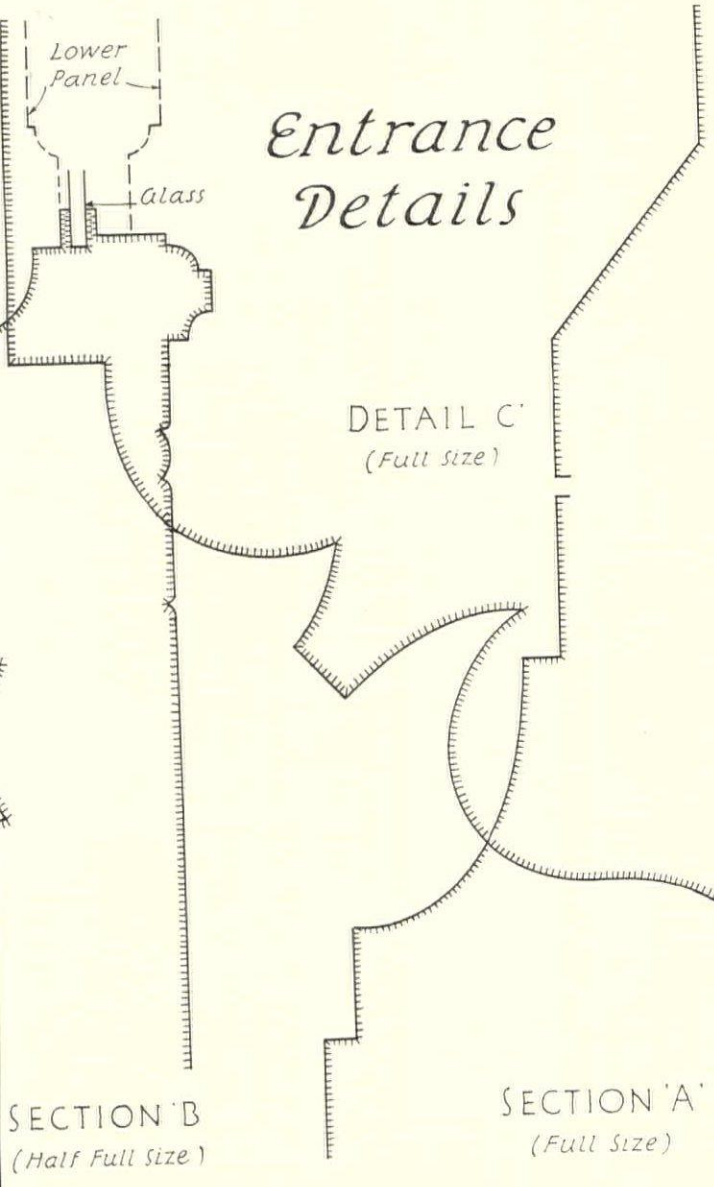
HOUSE IN ENGLEWOOD, N. J. · · · · · · · · · Lawrence C. Licht, Archite

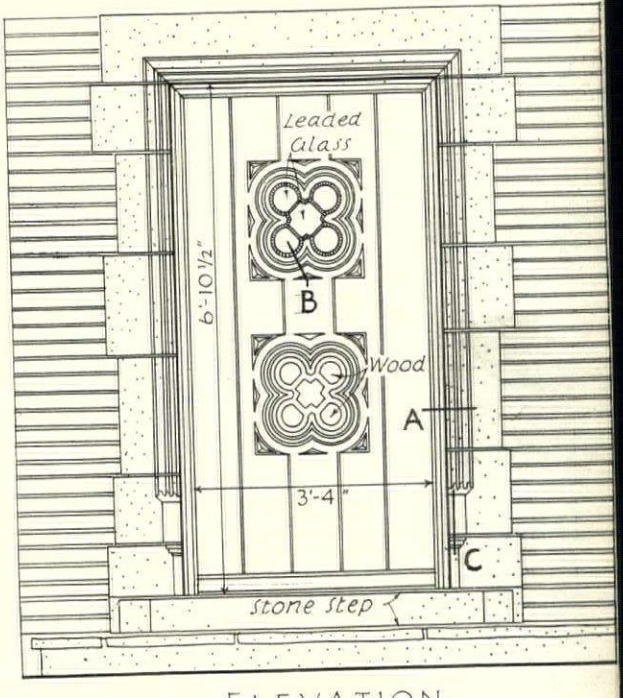
ENTRANCE
ELEVATION

Scale in Feet
0 5

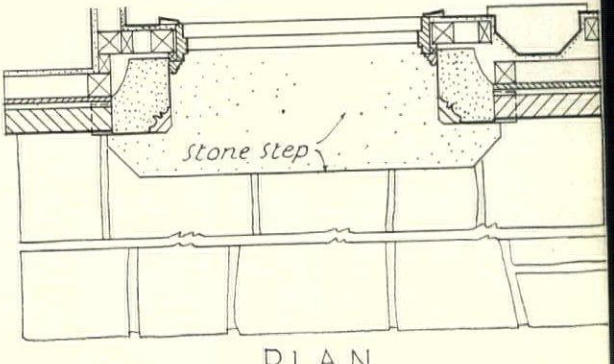


Entrance Details





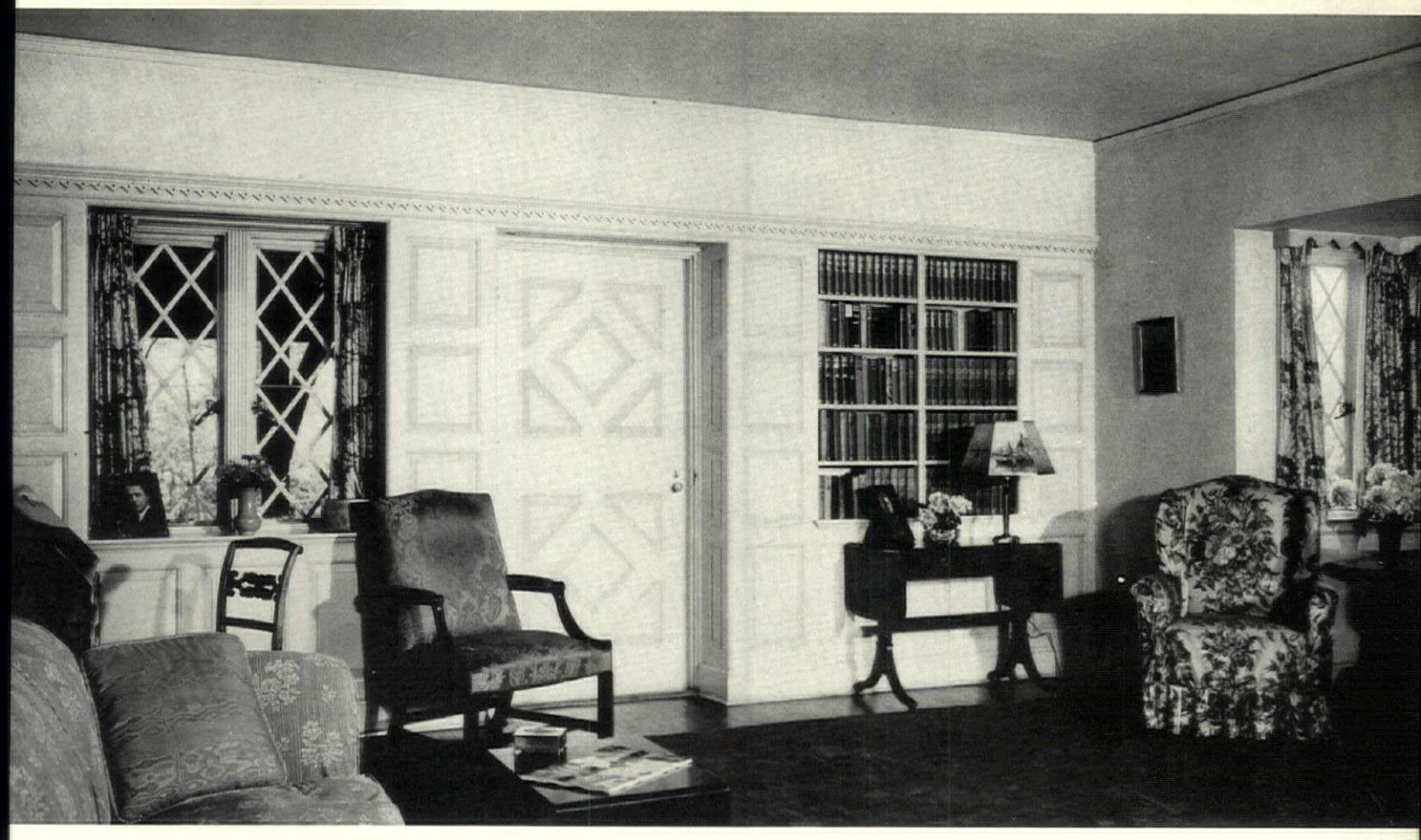
ELEVATION

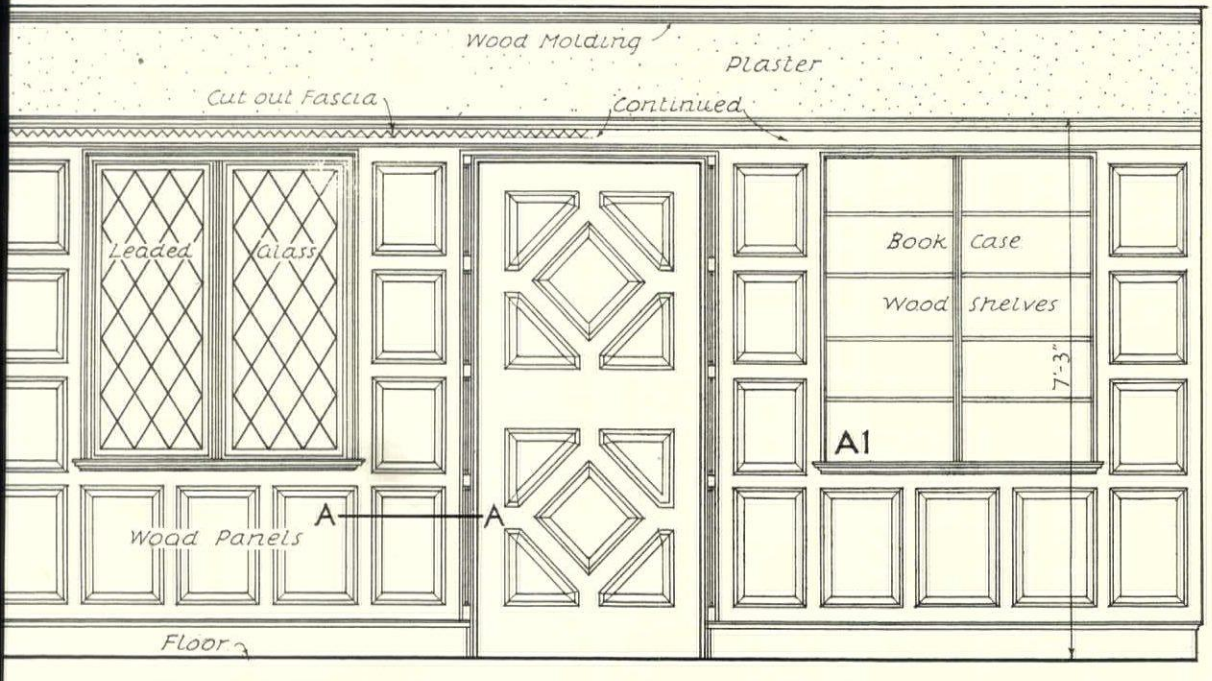


PLAN
Scale 3/8"=1'-0"

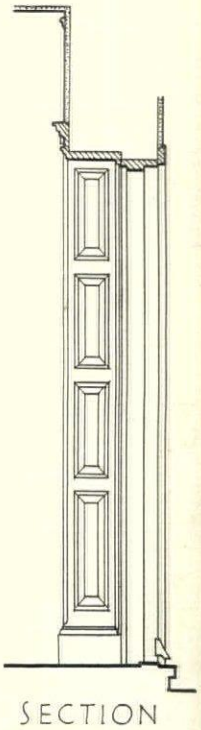


HOUSE IN ENGLEWOOD, N. J.

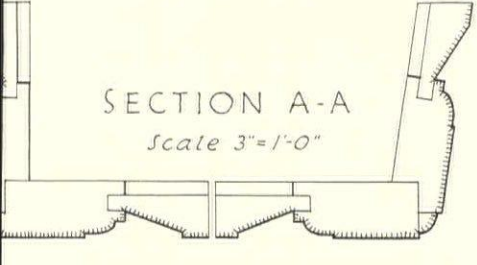




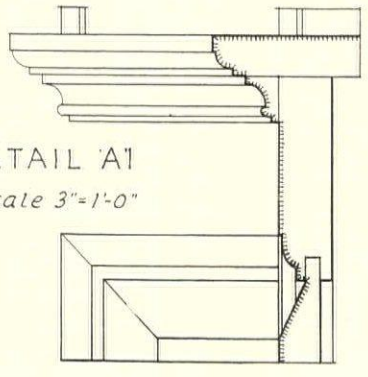
ELEVATION Scale 3/8"=1'-0"



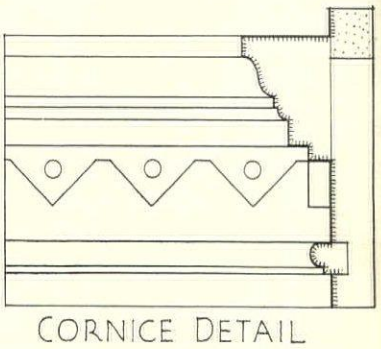
SECTION



SECTION A-A
Scale 3"=1'-0"



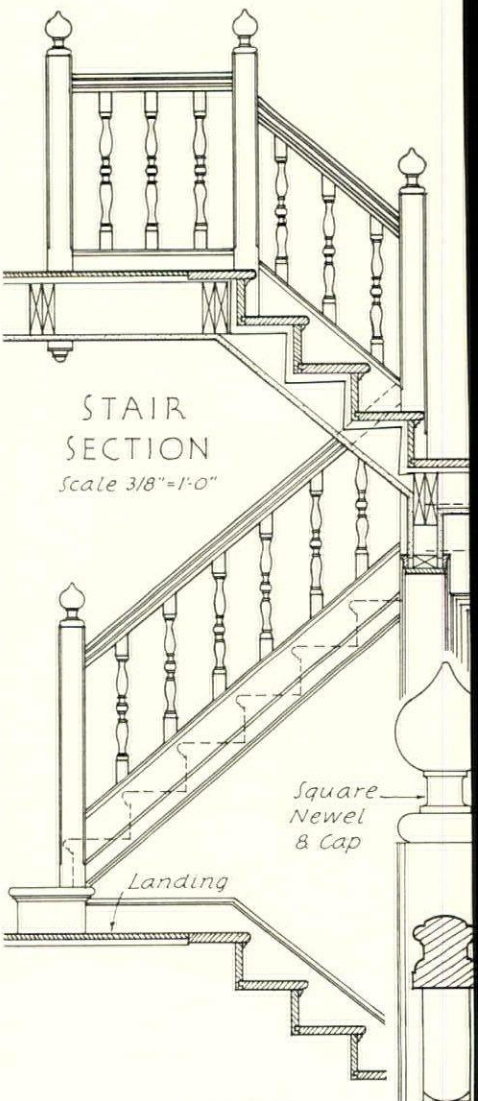
DETAIL A1
Scale 3"=1'-0"



CORNICE DETAIL
Scale 3"=1'-0"

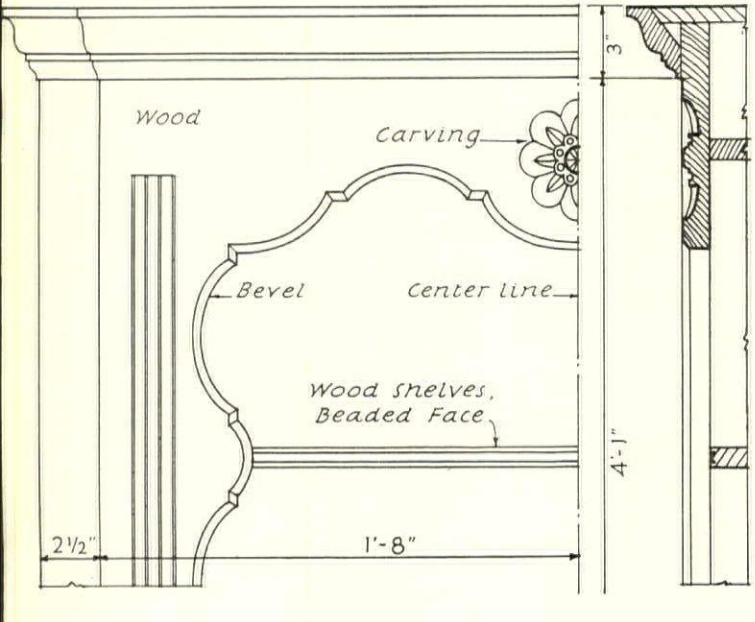
iving Room Details



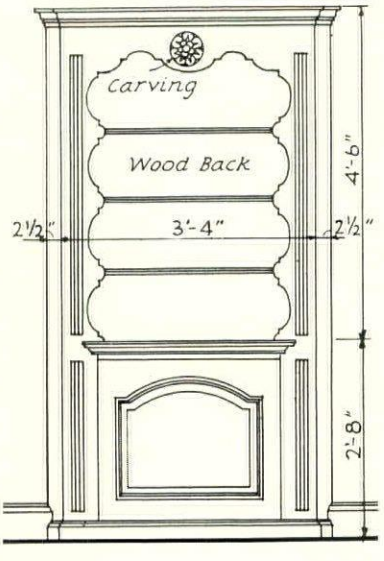


Stair & China Case Details

NEWEL &
BALUSTER
Scale 1½"=1'-0"



ELEVATION AT HEAD *Section*
Scale 1½"=1'-0"



ELEVATION
Scale 3/8"=1'-0"

THE MODERN HOUSE

BY WILLIAM LESCAZE

It seems curious that an architect can be a Colonial specialist and get along amicably with his English or French Provincial colleagues, or on the other hand, can climb the ladder by Gothic rungs and still have lunch with a Georgian friend. But the moment an architect lines up with the moderns, he becomes a man apart.

Perhaps that is because we moderns are a loquacious lot. We enjoy theorizing, and can find no better subject for it than modern design. After all, we must have felt pretty strongly about it or we would never have renounced the traditions for a style that until recently has been profitless.

I am no less firmly convinced than I was of the inherent rightness of modern architecture, but I seem to have grown less outspoken about it — since I find it almost impossible to discuss its theories without comparisons. I have no desire to step on the toes or any other part of the anatomy of my colleagues, no more than I desire them to do the same to me. And so, without apologizing for modern architecture, but for my speaking about it, I submit for clinical consideration a few of the principles that govern our office practice.

Despite all that has been written about modern design, it is still generally believed that walls of glass, flat roofs, and tubular furniture are the sum of modern architecture. In reply to which I am forced to recall the old saying about not seeing the woods for the trees.

Modern architecture is not merely the dogmatic acceptance of certain forms and materials, but springs from an attitude of mind — a philosophy, if you choose, concerned with human life and human needs. I am well aware that all architecture is reported to be springing from the same source — but so far as I can determine, the philosophy of traditional architecture does not lay the same emphasis upon the manner of living as it does upon patterns of design and adaptations of old plans.

Modern architecture not only emphasizes the habits of living and the necessity of increasing the workability of a house. That is its *raison d'etre.*

Design procedure is far different in modern architecture than it is in traditional work. There are no heavily documented volumes of the past performance of others to supply the germ of an idea. Before a line is drawn, the modern architect must psychoanalyze his clients. He must encourage him to think about the way he lives, not the kind of house he would like to live in.

The modern architect must know many more things besides how large the family is, the ages of its members, the income of the household, and the hobbies of the master, mistress and children. In effect, the modern architect has his clients fill out a revealing questionnaire, which might in some instances contain such questions as:

Is the family a lazy one? The master? The mistress?

How tall is each member of the family?

Do they strew their clothes about the place? Are they orderly?

How intimate is the relationship between father

and son, mother and daughter, father and mother?

What type of friends do they have? How often and how do they entertain?

The questions continue. At the conclusion the architect has a complete picture of living conditions in the household. How else could a plan that works be developed? Or a house that works be built?

Without consideration of anything but the kind of space that will most successfully house the activities of that family, and create the kind of atmosphere that their tastes dictate, the plan is worked out. Having no arbitrary restrictions, the room sizes and sequence can be shaped to answer perfectly the indicated requirements. Corridor spaces can be reduced to a minimum, and each room can be given the orientation it demands. There are no concessions to anything but efficiency and convenience in a modern house plan.

The evolution of the exterior from the plan need not be arbitrary. Houses need not look like blocks because large square rooms are required. But decoration in the sense of ornamentation not integral with utilitarian purpose is definitely not a part of the modern architectural scheme. It is futile to discuss the æsthetics of modern architecture. I have seen modern work that was æsthetically satisfying to me, and I have seen modern that is, to borrow a descriptive word from Mr. Cram, "incorrigible." I would say, off hand, that it is more difficult to work out an acceptable modern design, perhaps only because of the freedom with which it can be handled. For the same reason, it is possible to obtain greater effectiveness.

People seem to have an idealistic, romantic attitude toward the country. Houses must appear to have grown, not to have been built. This humility toward nature is becoming but anachronistic. Man is grateful to nature for the shelter she has provided. But if he has been able to construct superior shelters, is there any need to pretend that they are gifts of nature and not accomplishments of man?

There is little use in pretending that a house is part of a landscape.

And while I am firmly of this opinion, I have an equally firm belief that modern houses can be planned to give externally (for this relationship in traditional architecture is mostly external) the same sympathetic relationship. Furthermore, with the increased flexibility of mass, modern houses can be adapted much more easily to a landscape than a house with traditional form and mass limited by customs.

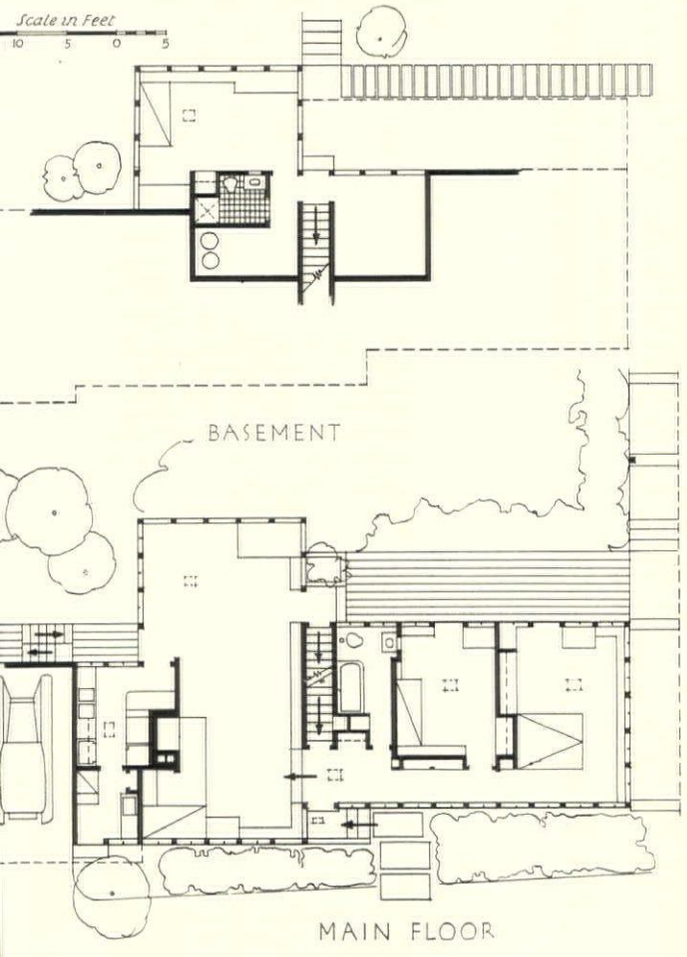
Certainly their orientation to gain full advantage of the surrounding country can be increased; and certainly modern houses, with their large window areas and terraces bring the country into a closer relationship with the house than the romantic stone piles with their small mullioned windows.

As for the interiors, modern architecture is interested in the dust mop, as well as in the comfort and tastes of the occupants. It believes that smooth surfaces, and the elimination of dusty cornices and moldings are more to be desired than the doubtful charm of certain precedented interiors.

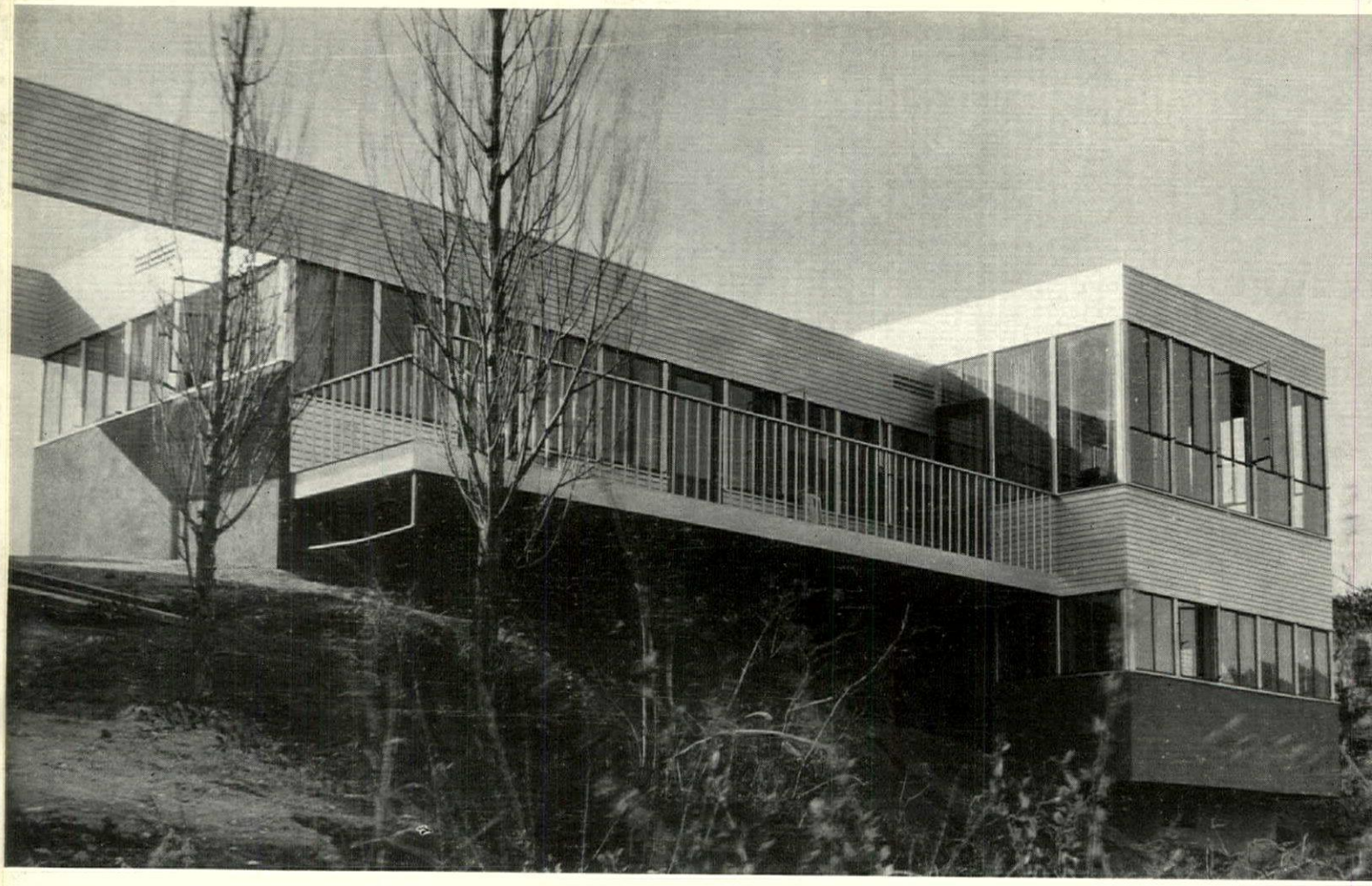
Modern architecture, furthermore, insists on architectural furniture. The architect who designs a house and leaves it barren of places to sit down, places to sleep, tables to use, and intelligently located lighting fixtures is not an architect at all. An architect must leave behind him when the building is turned over to the owners a place to live, not a shell that has to be converted into a house.

And finally, modern architecture is economical. Given two houses, one modern and the other in any traditional style, both offering as nearly the same habitation facilities, both of comparable cubage and area, and the modern house will be less expensive to build. It simplifies construction methods and uses standards to obtain reduced costs resulting from large scale orders.





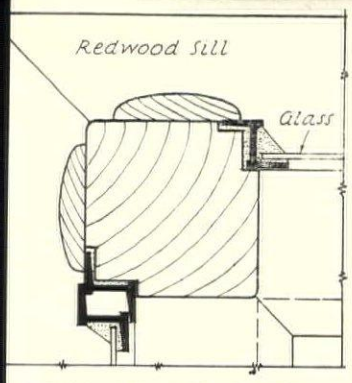
DESIGNERS of modern houses invariably lay emphasis upon the manner of living as being the key to the type of plan, and the general treatment of interior space. In the hills outside Los Angeles, Richard Neutra has evolved this house for a couple who, while sharing hospitality, "tend toward a contemplative enjoyment of life," and who have an appreciation of "a natural existence based on a modern scientific conception of what 'natural' means." It is a part of a hillside colony, all the houses in which have been, or will be, designed by Richard Neutra. All the buildings, including a kindergarten and community hall, are of the same general architectural character and construction and units in a community planned for privacy and freedom of living. The "wood chassis" construction has been so competently and logically evolved that its details, as shown, merit careful study



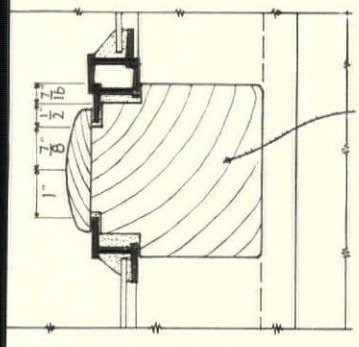


IN THE construction of this house, as well as in the others in the colony, Richard Neutra has employed a standardized wood chassis, with continuous trusses above and below the continuous steel casement window sash. Large slabs, composed of wood shavings and portland cement, steam-compressed, and coated with a heat-reflecting aluminum foil, provide lightweight, fireproof walls of high insulating value. Full information on the character of construction is included in the details on the opposite page

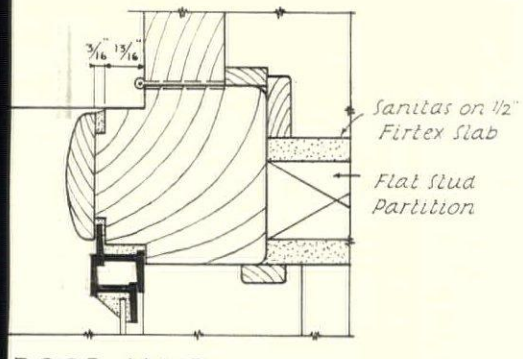
Window and Door Details



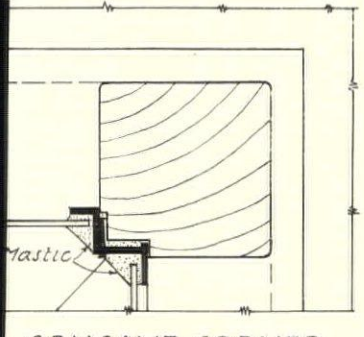
CONVEX CORNER



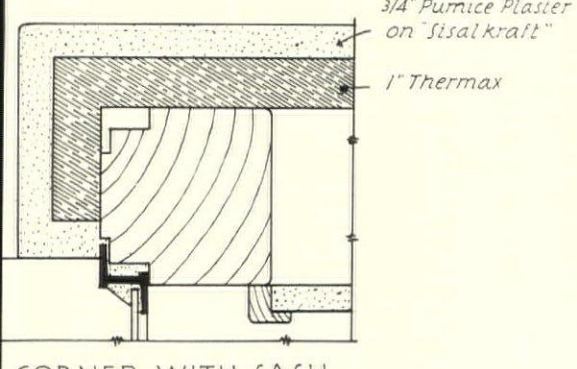
TYPICAL POST



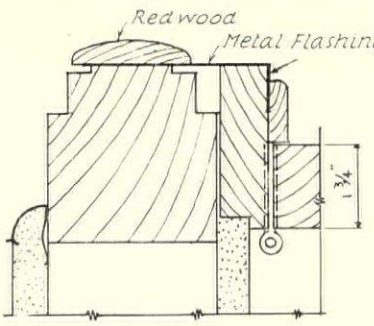
DOOR JAMB *(Exterior)*



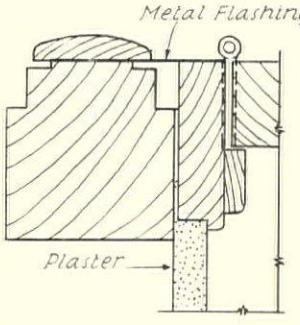
CONCAVE CORNER



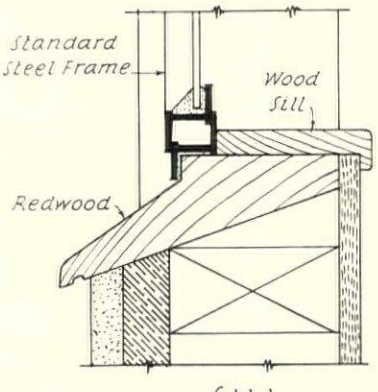
CORNER WITH SASH



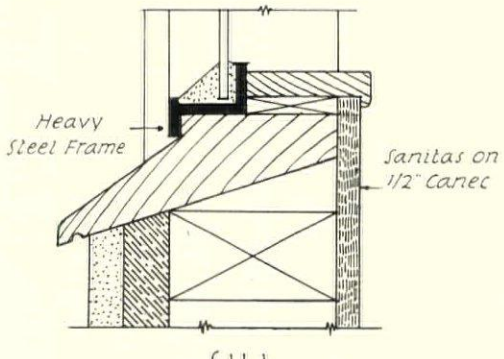
DOOR JAMB
(Inswinging)



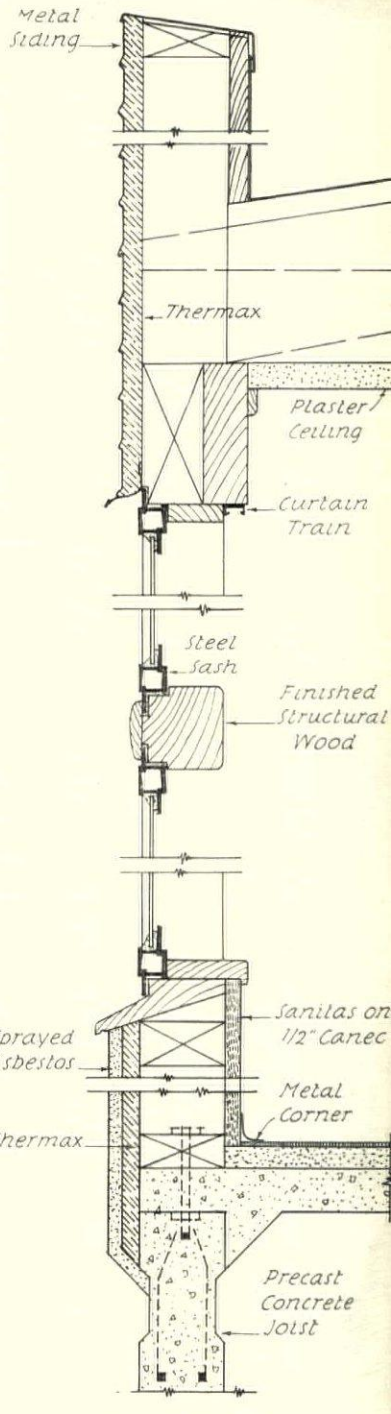
DOOR JAMB
(Outswinging)



SILL

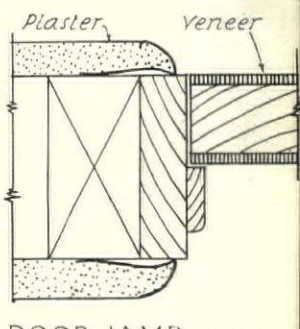


SILL

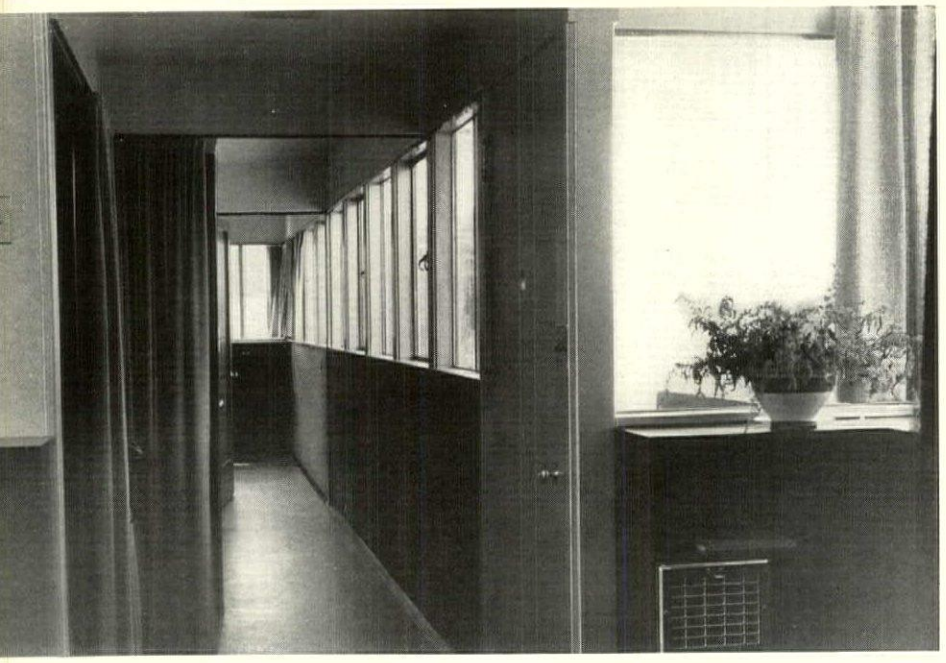


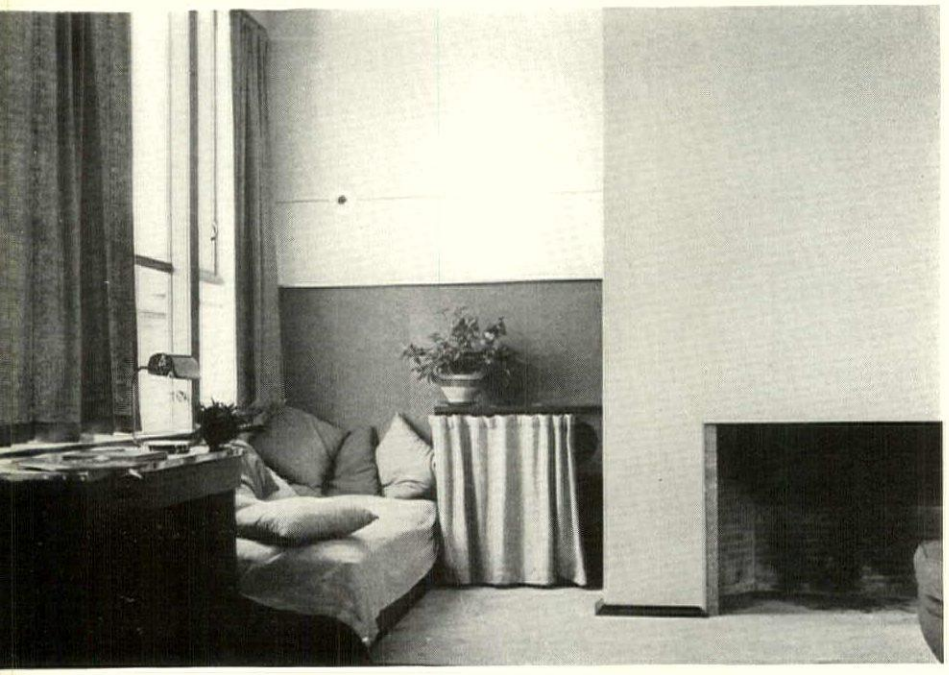
VERTICAL SECTION
(Wood Chassis Construction)
Scale 1 1/2" = 1'-0"

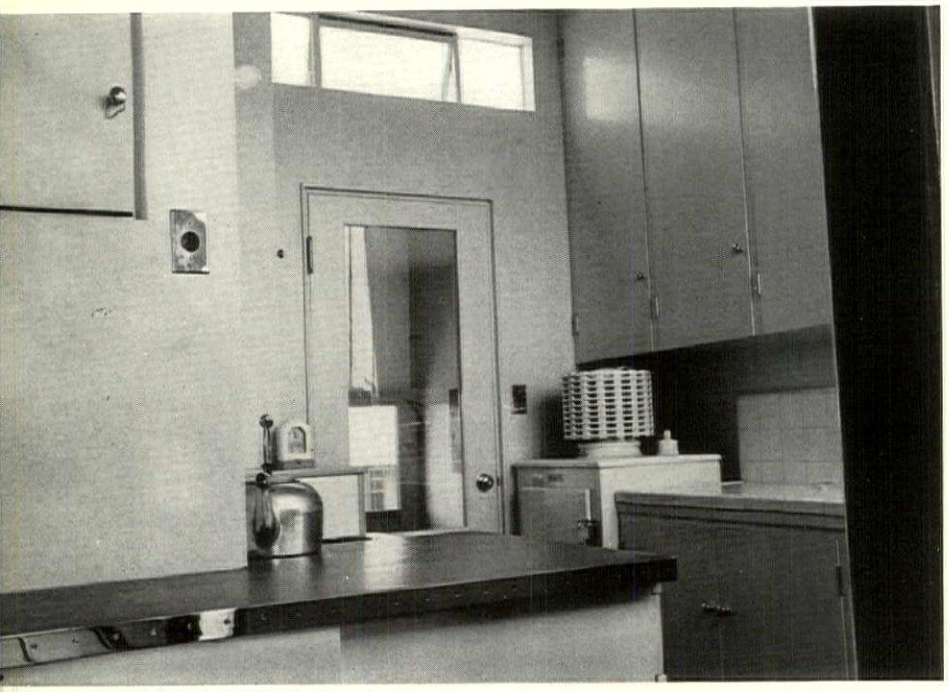
All large single sections drawn to the scale of 3" equals 1'-0"



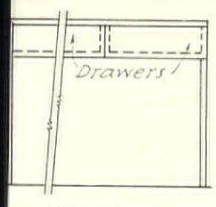
DOOR JAMB *(Interior)*



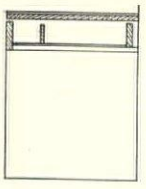




THREE typical interiors illustrate the uniformity and simplicity of design. Top, the corridor leading to the bedrooms; center, a corner of the living room, and below, a corner of the kitchen. All interiors are of cane fiber insulating lath covered with pumicite coating and washable fabrics. The flooring is battleship linoleum on felt. Door casings and picture molds are metal, and the lighting is built into the ceiling. All furniture, day and night couches, desks and drawer sets are consistently architectural in character, built in under the original contract

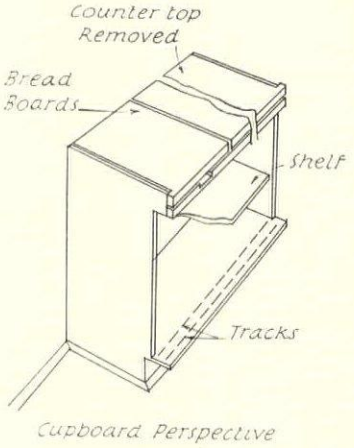


Elevation

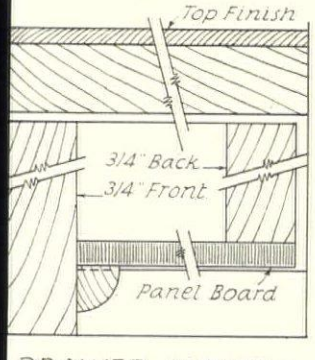


Section

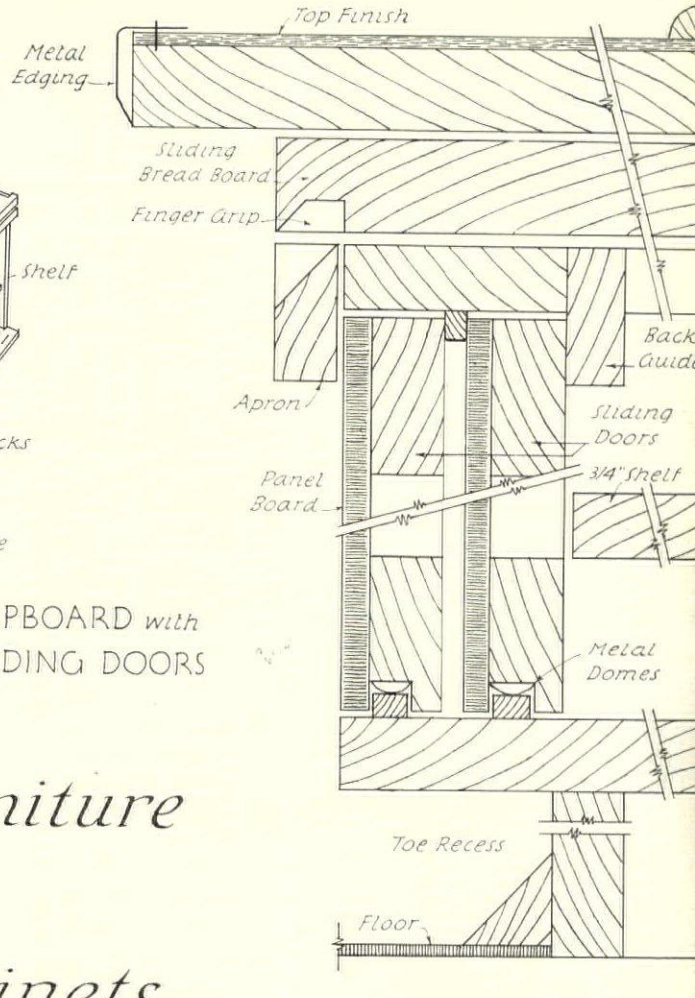
DESK DETAILS



Cupboard Perspective



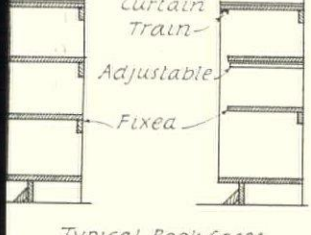
DRAWER SECTION
(Half Full Size)



CUPBOARD with SLIDING DOORS

SECTION (Half Full Size)

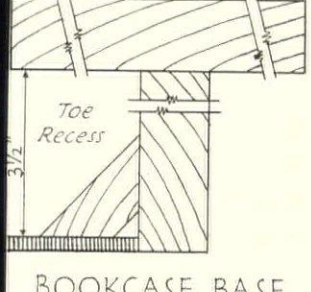
Details of Furniture and Kitchen Cabinets



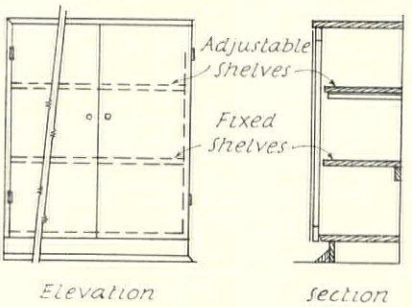
Typical Book Cases

BOOKCASE DETAILS

CUPBOARD with SWINGING DOORS

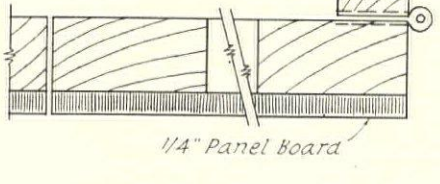


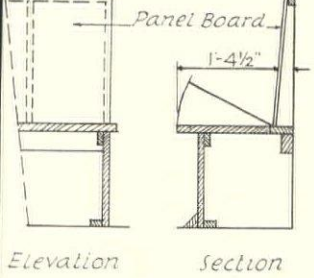
BOOKCASE BASE



Elevation Section

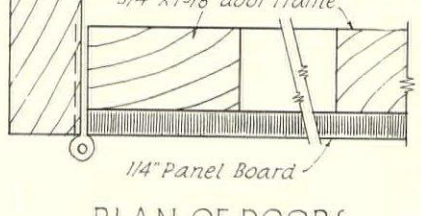
Scale 3/8" = 1'-0"



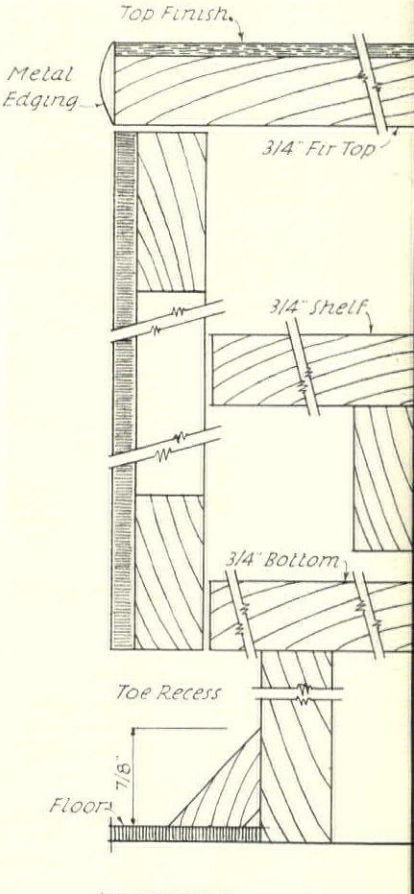


Elevation Section

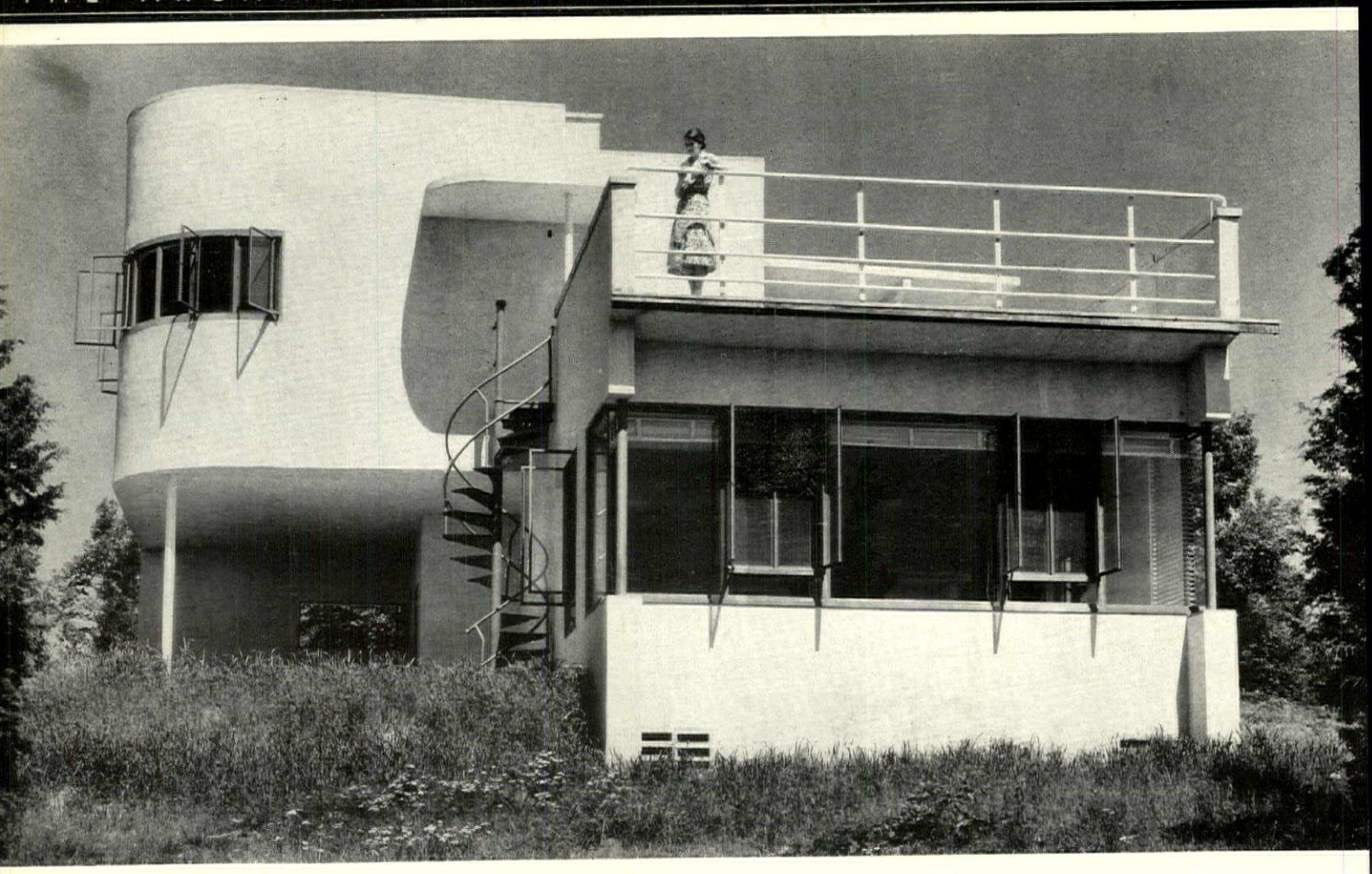
BENCH

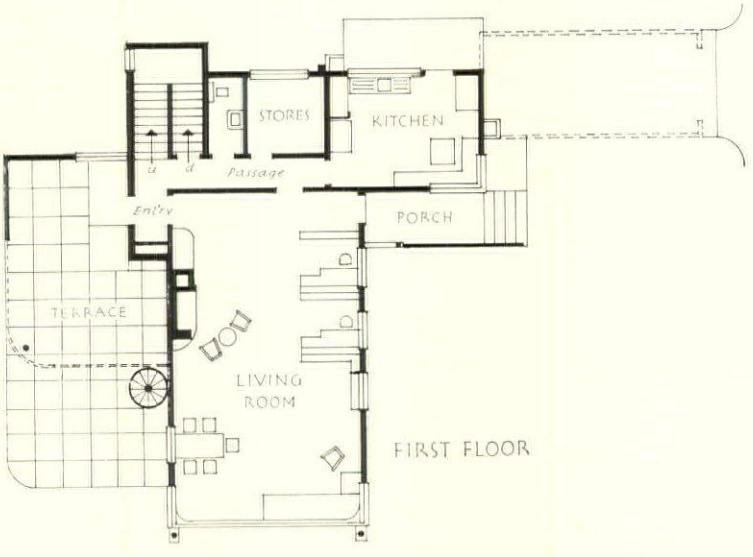


PLAN OF DOORS



SECTION (Half Full Size)







STEEL and concrete, which have contributed so much to the flexibility of commercial building planning, are sometimes called upon to do the same for modern residence architecture. Such a system of construction seemed best for this house of irregular form designed by Howe & Lescaze in Connecticut. It is intended for summer occupancy and occasional winter visits. The house is situated on a hilltop, surrounded by wooded areas, with a fine view to the south

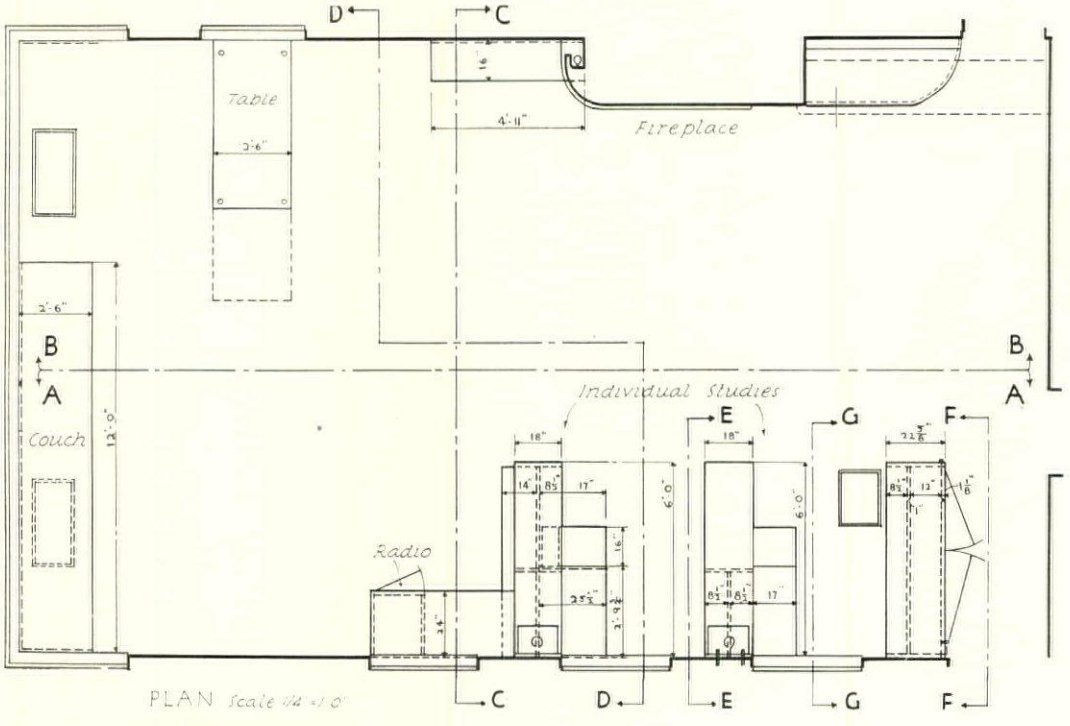


THE wall construction consists of steel framing with paperback mesh covered with cement stucco for the exterior, and ½ in. cork plastered and painted for the interiors. A 2 in. concrete slab poured over wire mesh forms the floor and roof construction. The steel casement sash are set in angle frames and welded to the structural framing. The general interior finish is a flat oil paint, with flush steel tan doors and no trim. Except in living room, hall and stairs, which have cork floors, the flooring is linoleum. The interior stairs are of structural steel, cork covered with aluminum nosings

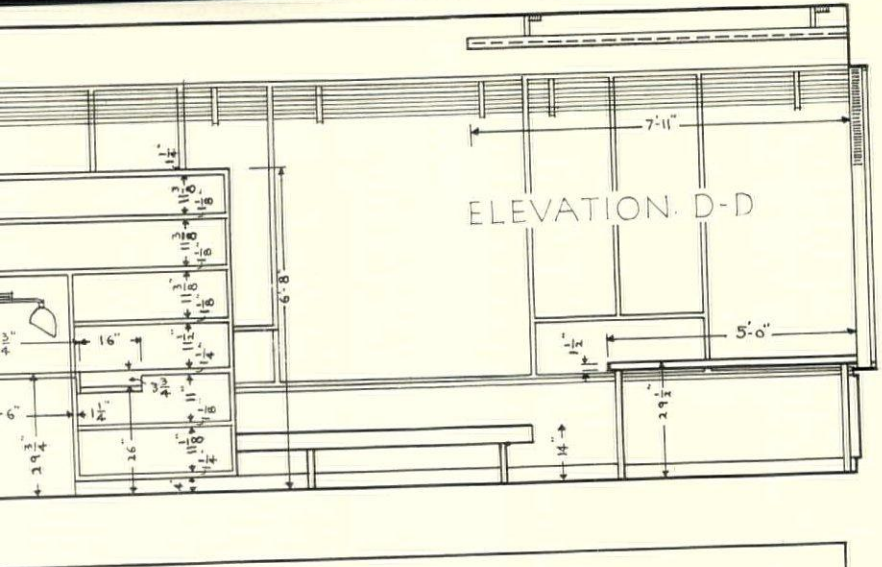


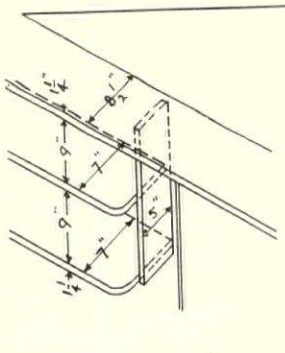




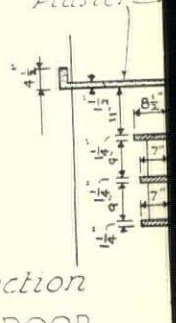


PLAN Scale 1/4" = 1'-0"



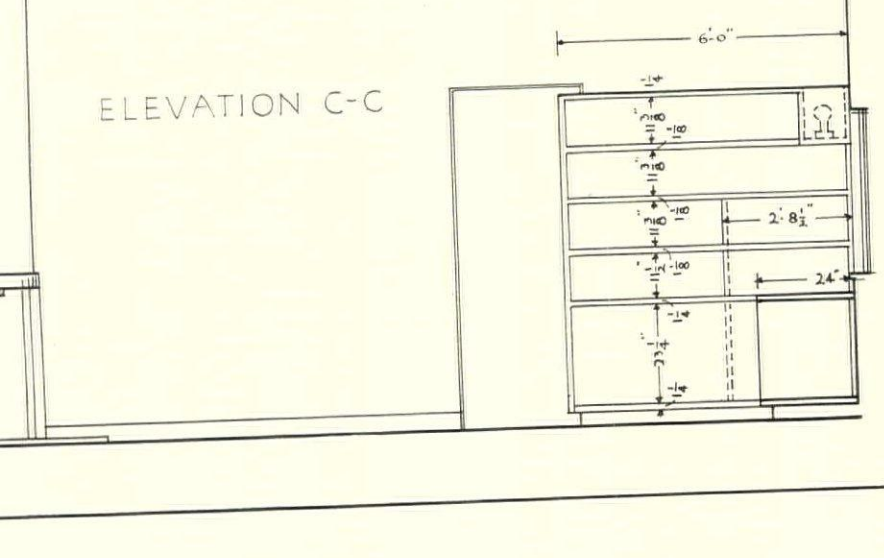


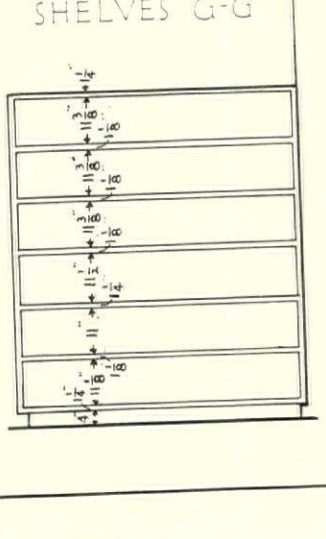
Isometric

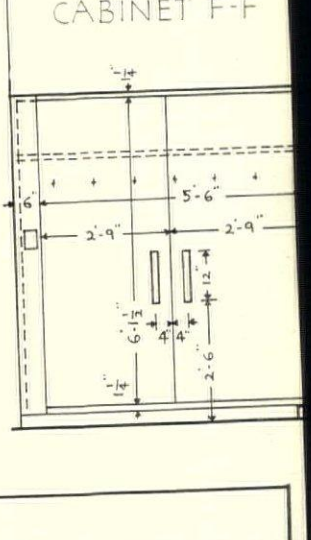


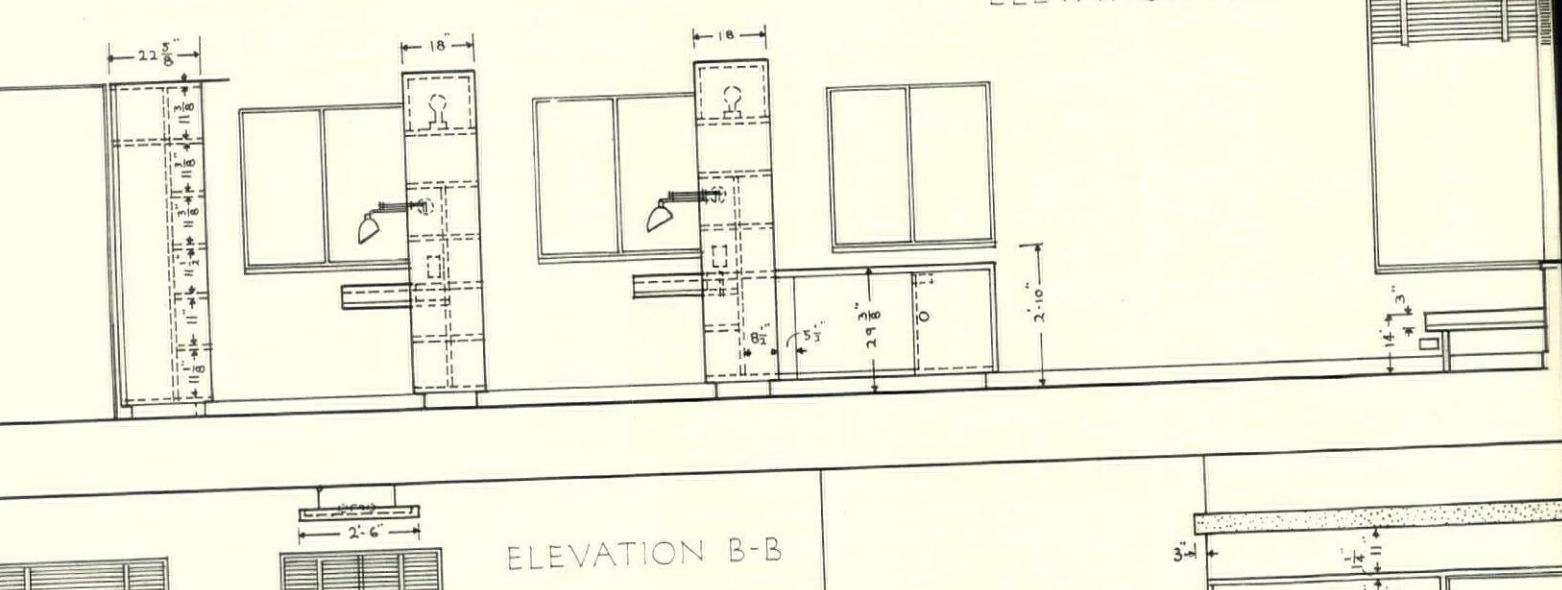
Section

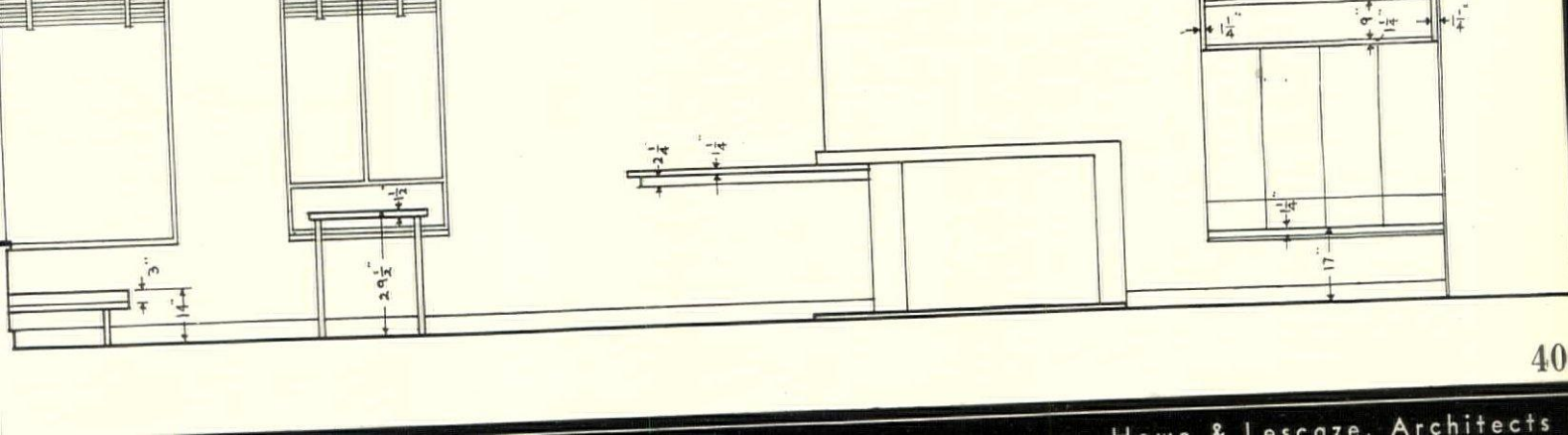
BOOKSHELVES OVER DOOR

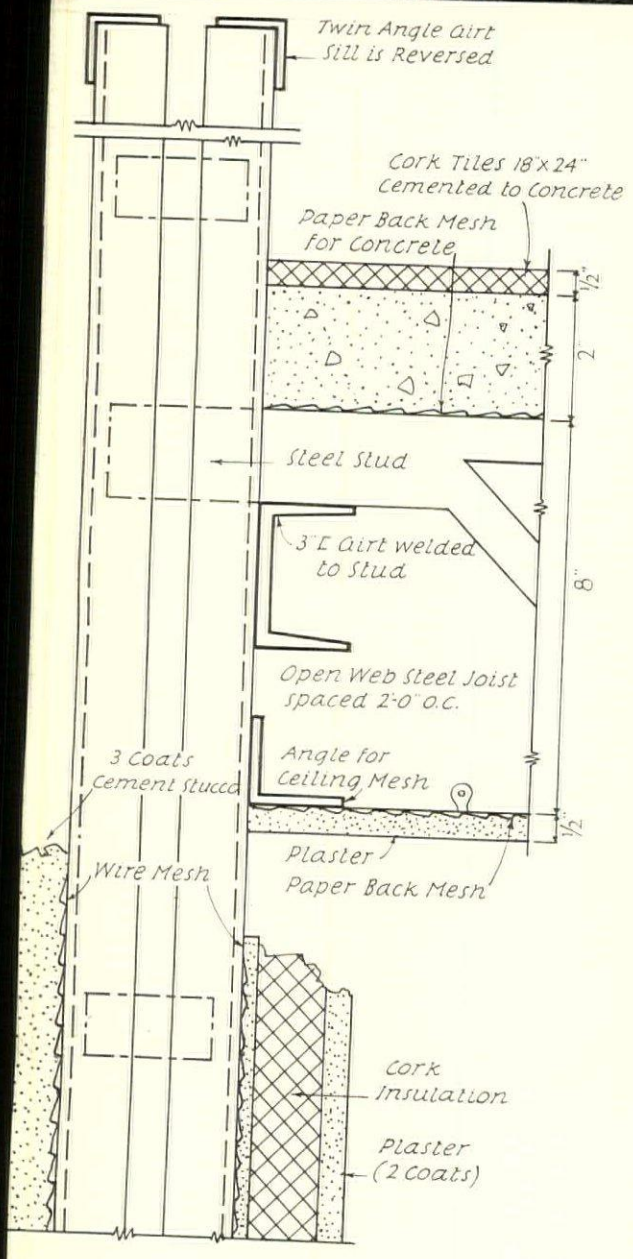




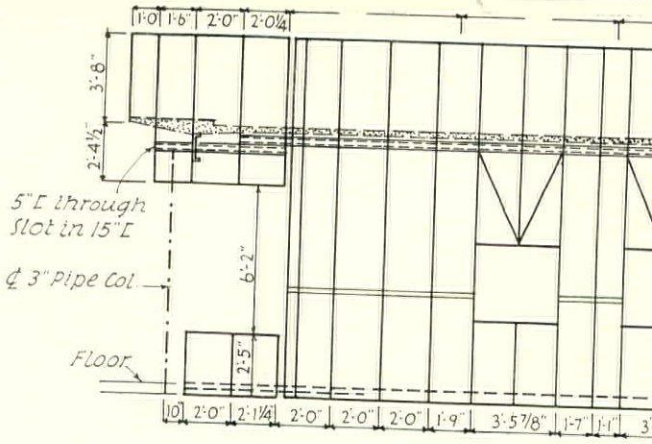




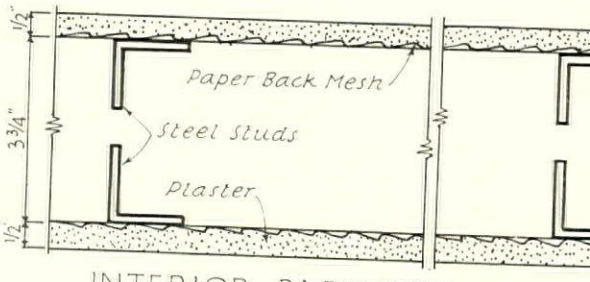




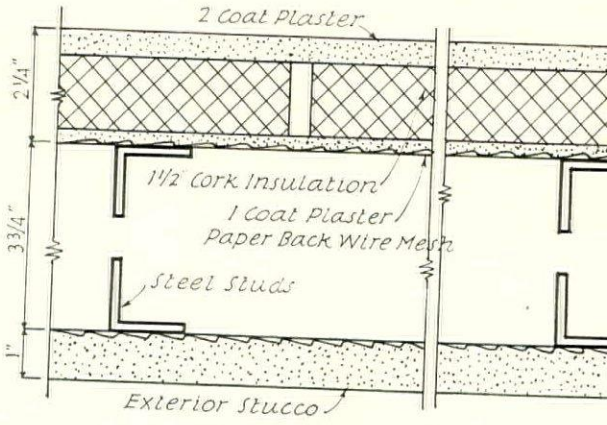
FLOOR CONSTRUCTION Scale 1½"=1'-0"



STEEL FRAMING (Living Room)

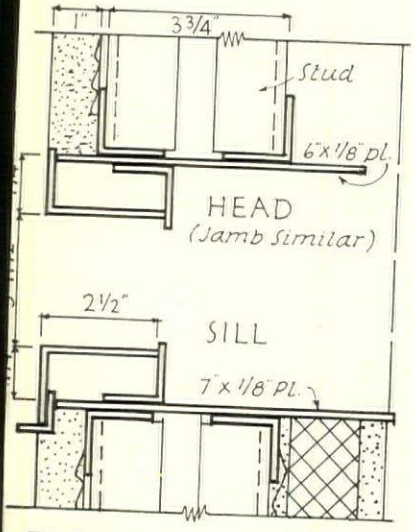


INTERIOR PARTITION Scale 1½"=1'-

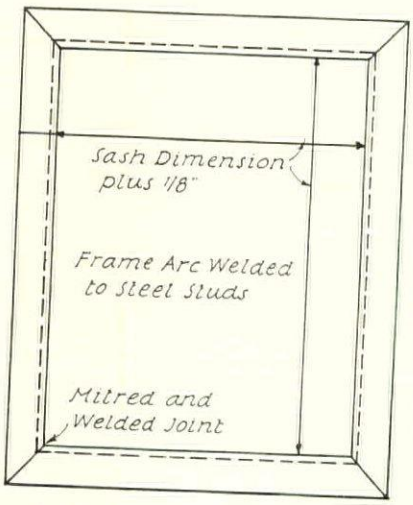


PLAN OF WALL Scale 1½"=1'-0"

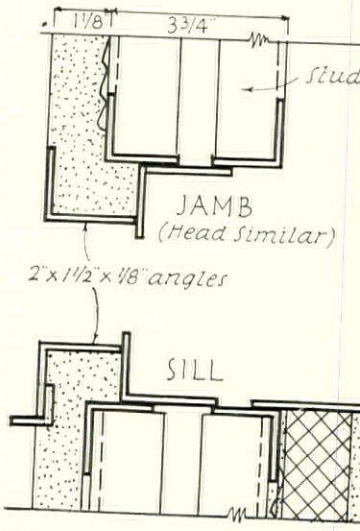
Wall and Floor Construction



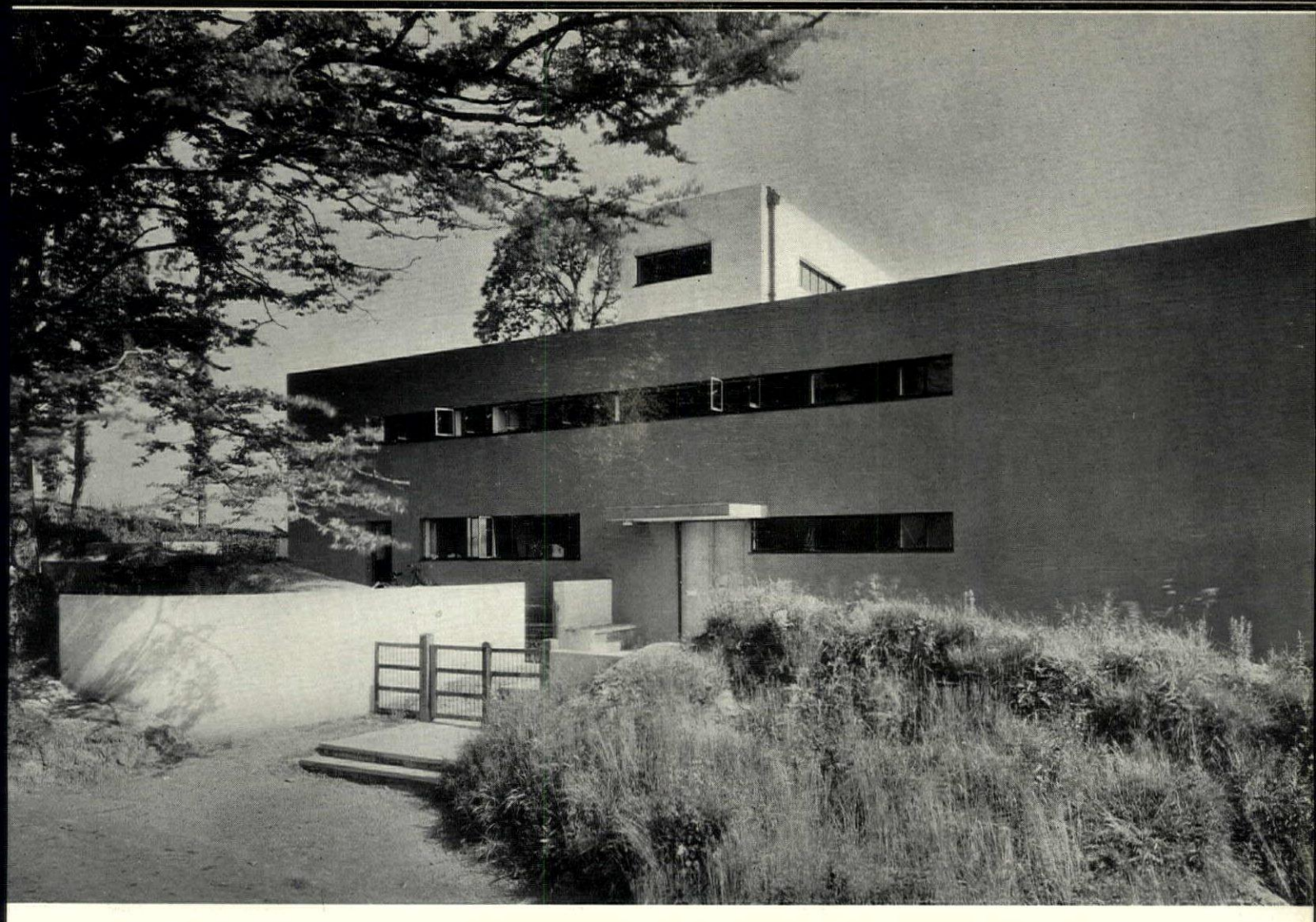
FRONT WINDOW 1½"=1'-0"

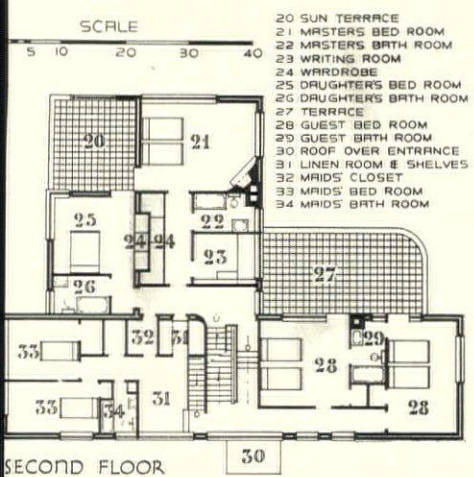


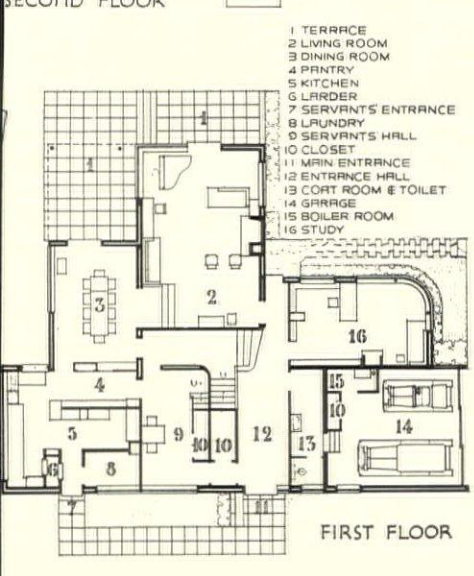
WINDOW ELEVATION



TYPICAL WINDOW 1½"=1'-0



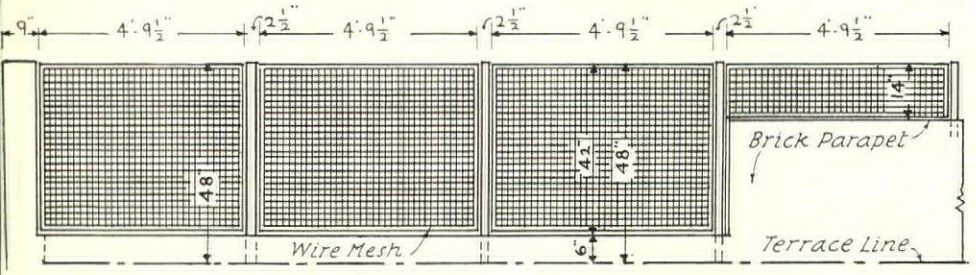




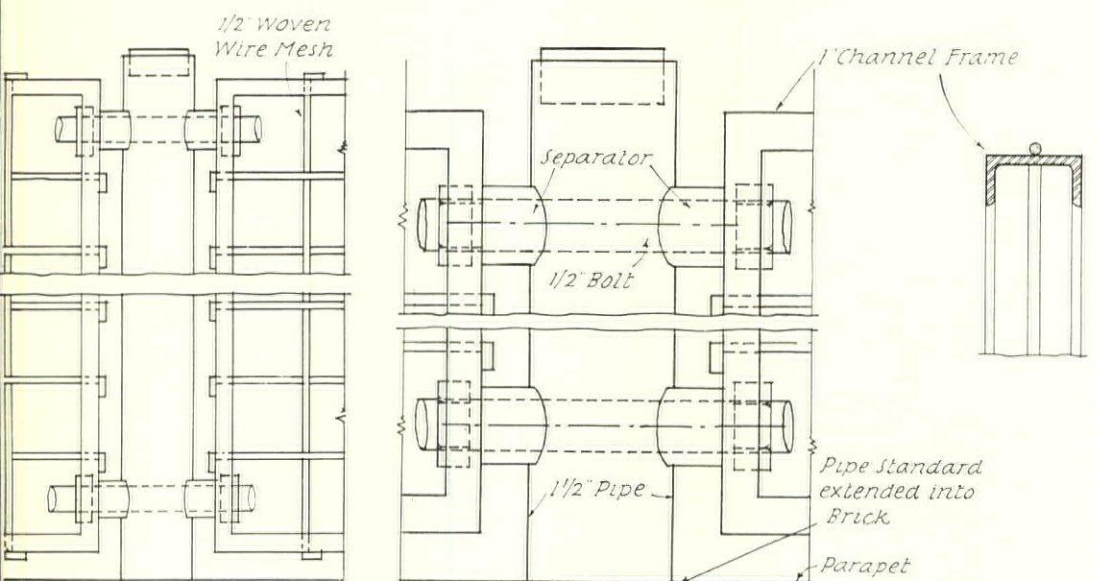
IN MODERN houses, where the familiar dictum of form following function is strictly obeyed, the method of arriving at a satisfactory composition evolves naturally from the plan and gives abundant latitude to the designer. Here in the house for a headmaster of an English country school, Howe & Lescaze have obtained the desired effect by effective contrasts — long sweeps and a few curved surfaces. Outdoor living spaces and terraces are amply provided. Similarly the coloring is a contrast of blue and white. Two 4½ in. brick walls, 3 in. apart, fastened together with galvanized ties, make an efficient wall construction. Floors and terraces are concrete slabs. Absence of trim — an almost inevitable characteristic of modern design — marks the interiors, which are as simple in form as the exterior, all wardrobes, closets, bookcases, doors, etc., being flush. The windows, grouped for maximum light where light was desired, are steel casement, swinging out



Courtesy, Architect & Building News, London

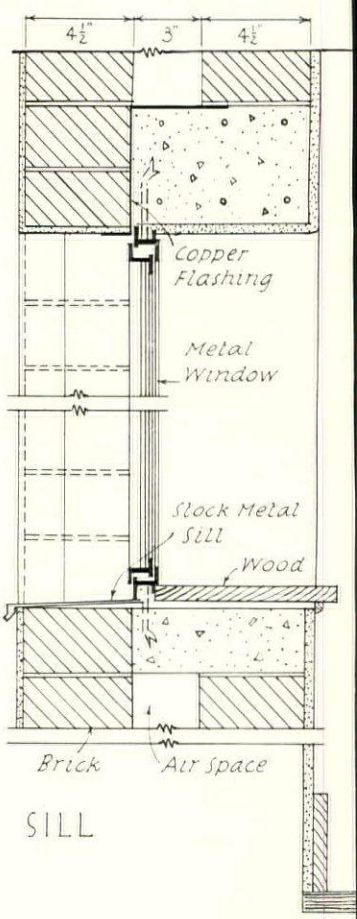


ELEVATION OF WIRE SCREEN *Scale 1/4" = 1'-0"*



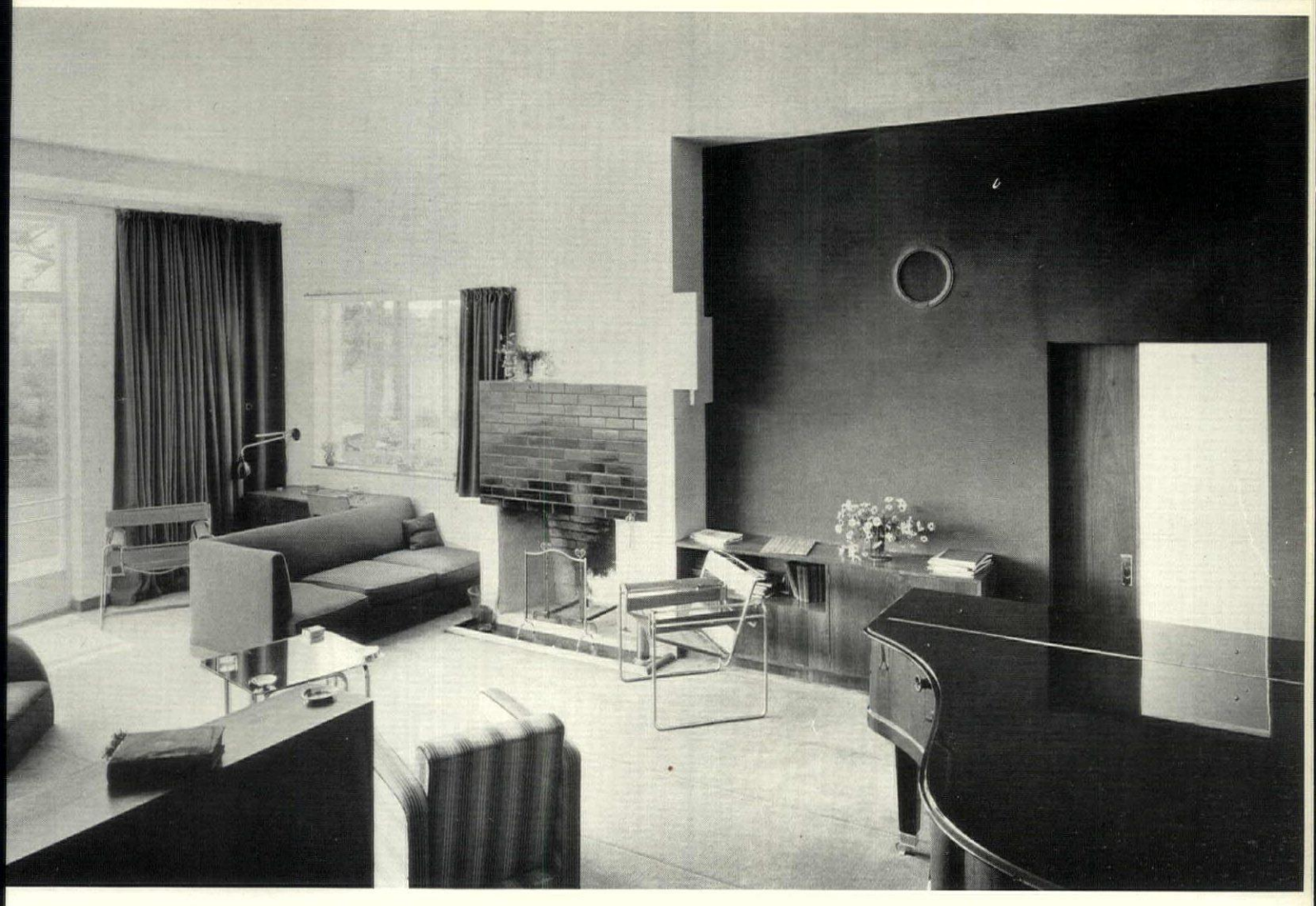
WIRE SCREEN DETAIL *at* ROOF TERRACE

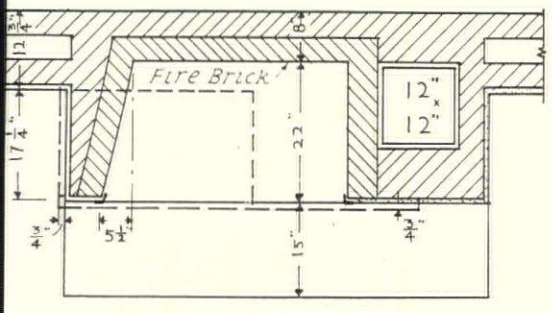
Scale 3" and Half Full Size



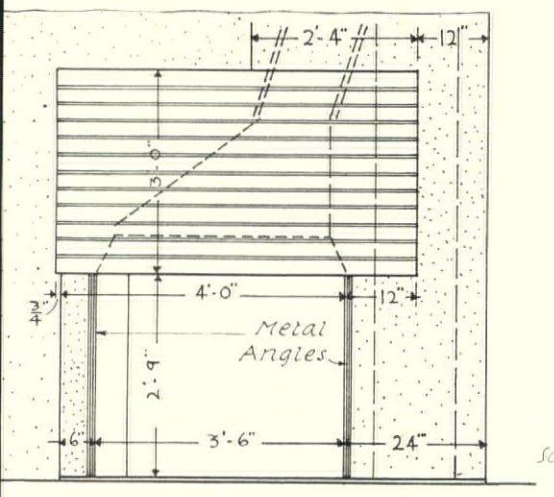
TYPICAL WINDOW

Scale 1½" = 1'-0"

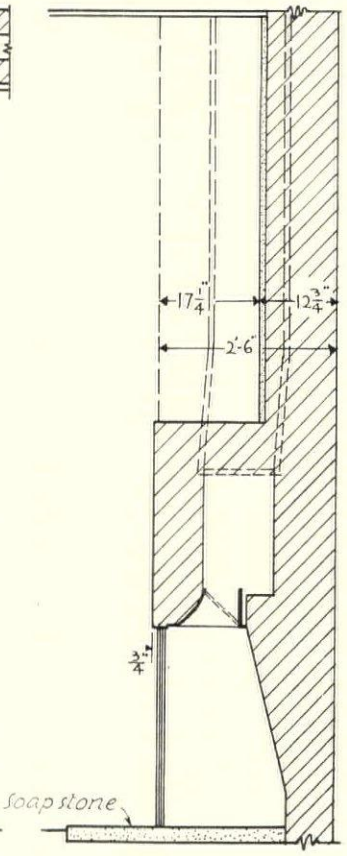




PLAN



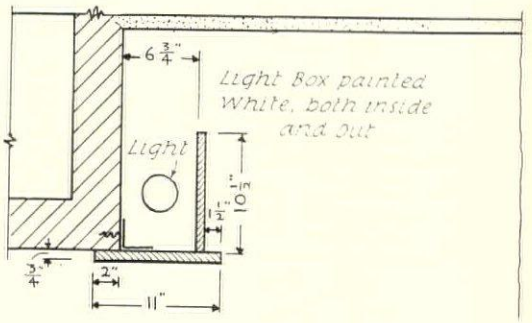
ELEVATION



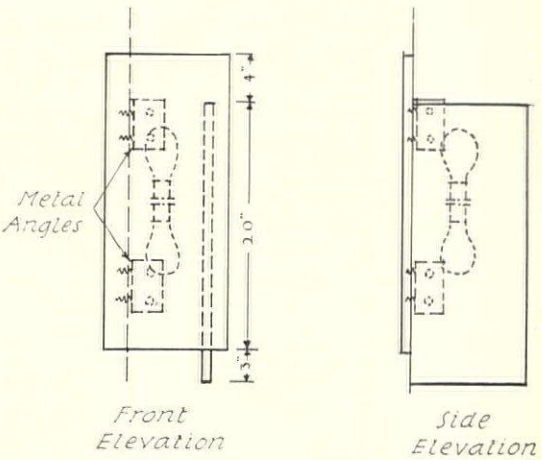
SECTION

FIREPLACE DETAILS

Scale 3/8" = 1'-0"



Plan

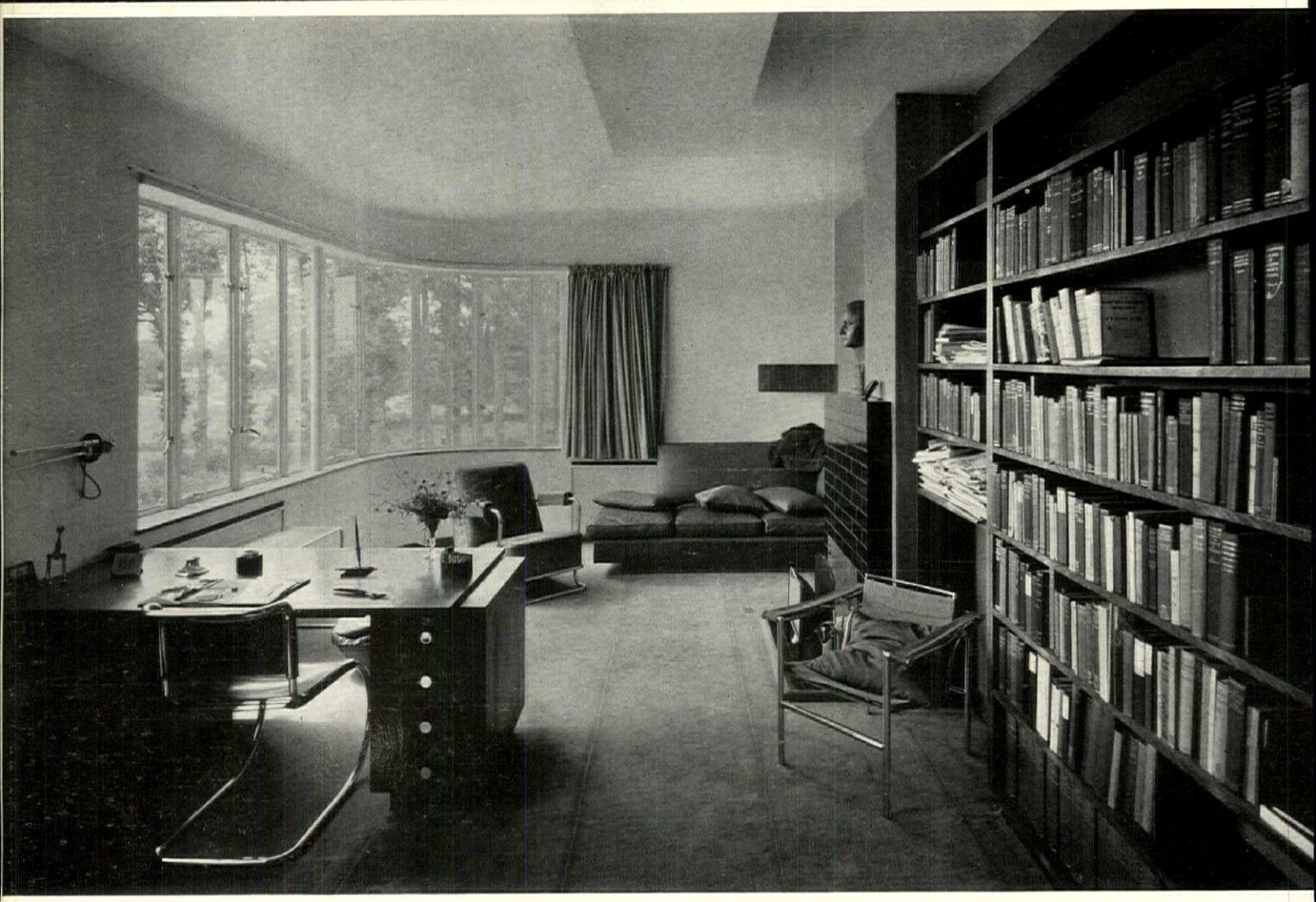


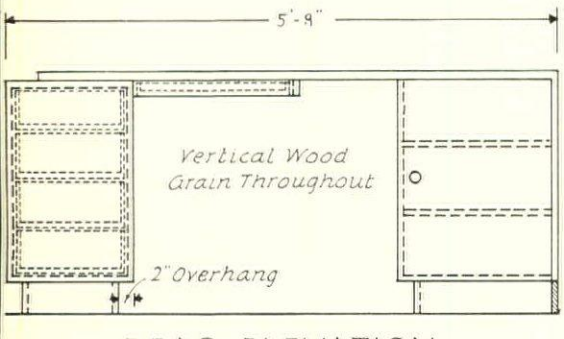
Front Elevation

Side Elevation

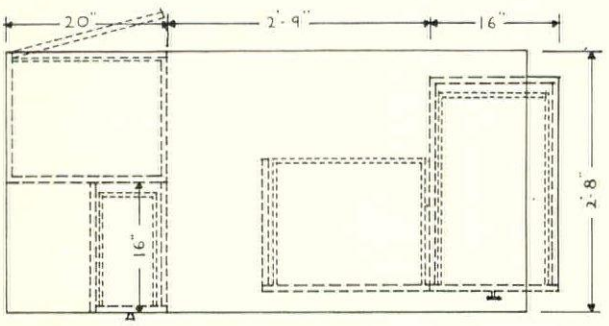
LIGHT BOX DETAILS

Scale 3/4" = 1'-0"

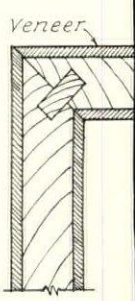




REAR ELEVATION



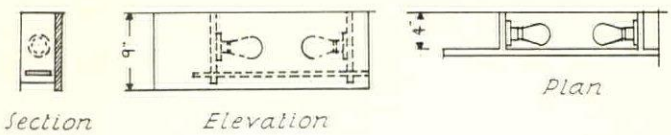
PLAN



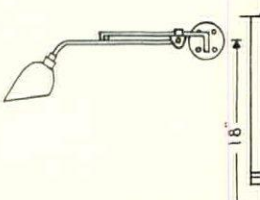
CORNER

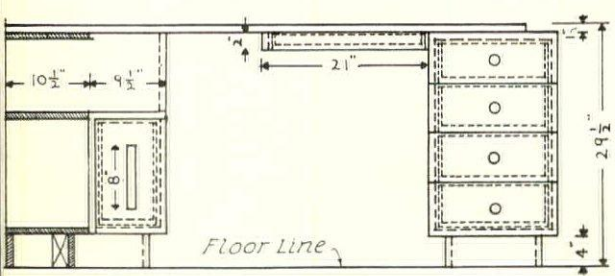
Details of Desk in Study

Scale 1/2" = 1'-0"

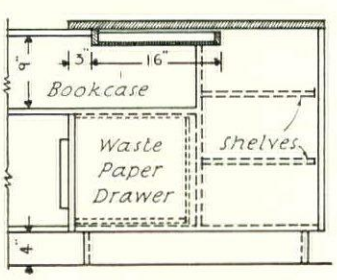


LIGHT BOX

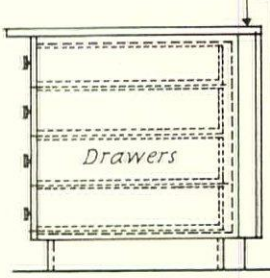




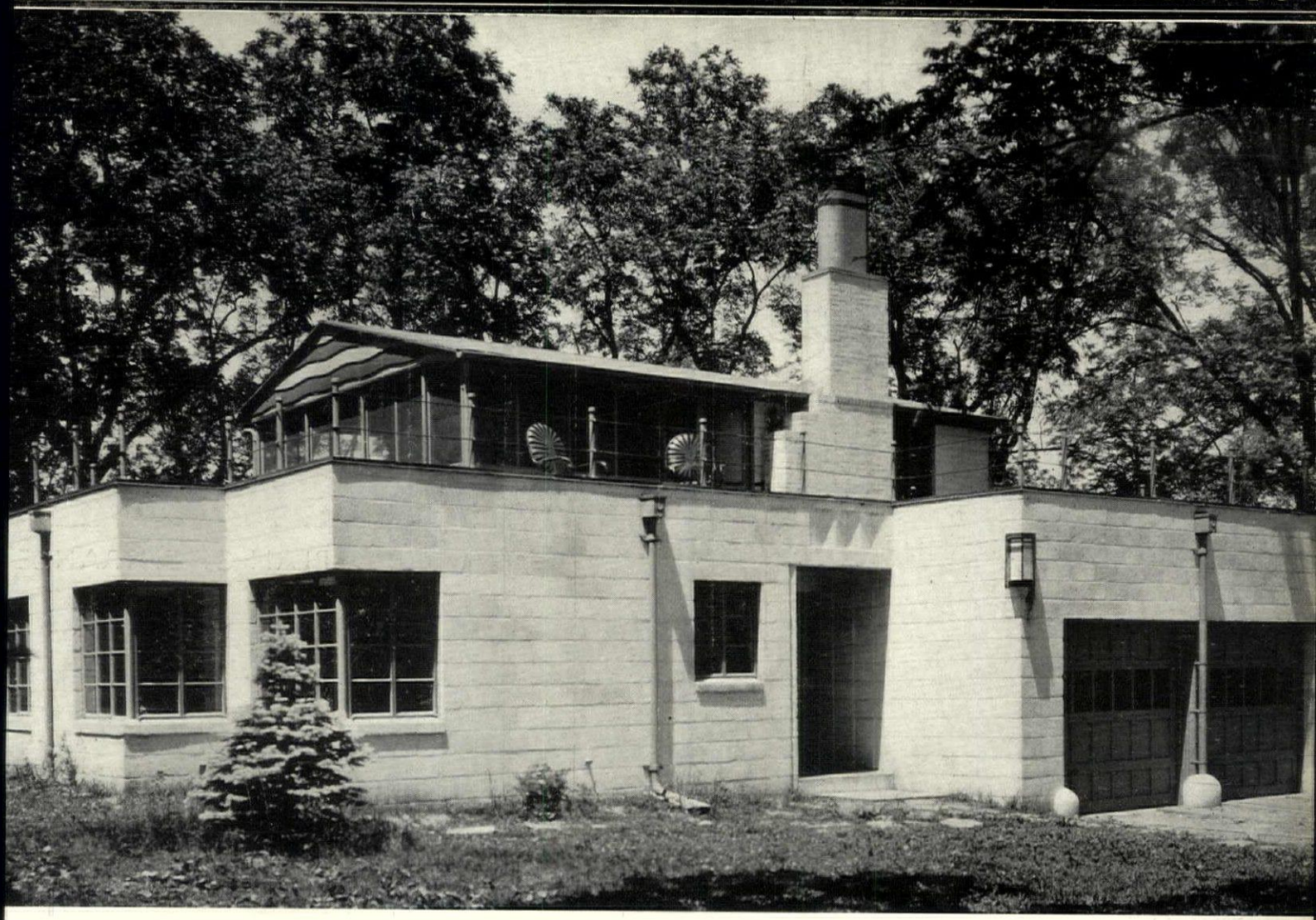
FRONT ELEVATION



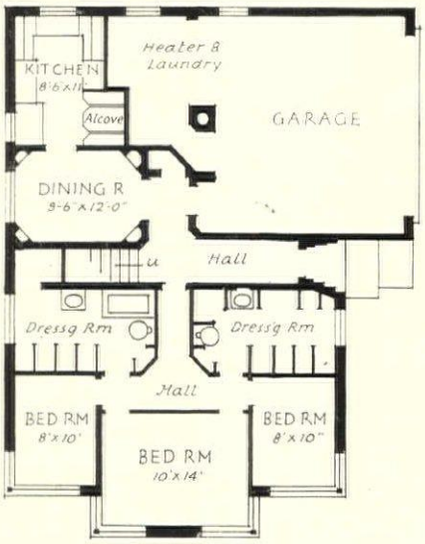
SECTION

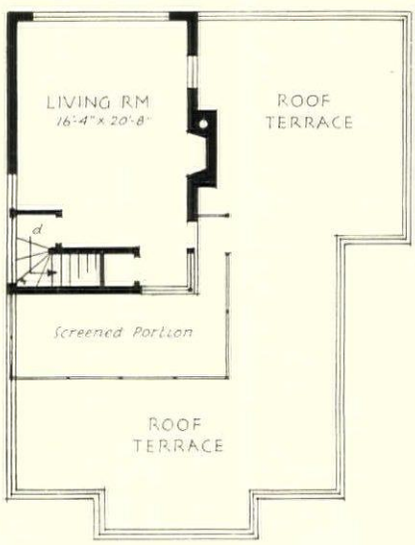


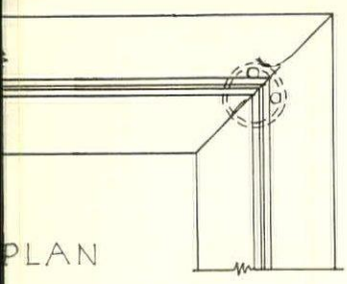
SIDE



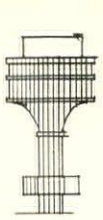
MODERN architecture has invaded Iowa. Just outside Des Moines, Amos Emery has recently completed this house, which is unusual in plan, design and construction. Dining room, kitchen and bedrooms are concentrated on the first floor, with a penthouse living room, flanked by terraces on the second floor. Particularly noteworthy is the ingenious and practical planning of the separated, but adjoining, sleeping and dressing rooms. The house is built of concrete ashlar blocks painted with a white cement paint. Open light-weight steel joists support the second floor, and the roof is constructed of wood sheathing insulating with a rock wool fill. The walls of the dining room and hall are painted in blue and silver bands directly on the concrete blocks. All other interior walls are papered, over insulating board nailed into the concrete. The ceiling treatment of living room, dining room and halls is an aluminum finished wallboard. Carpet covers all floors except in the living room which has tile flooring

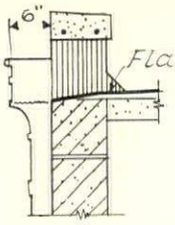




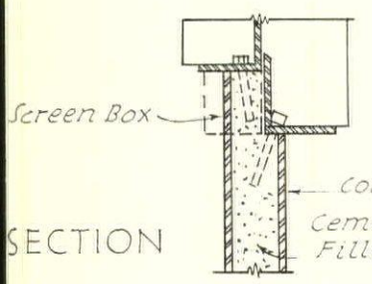


PLAN





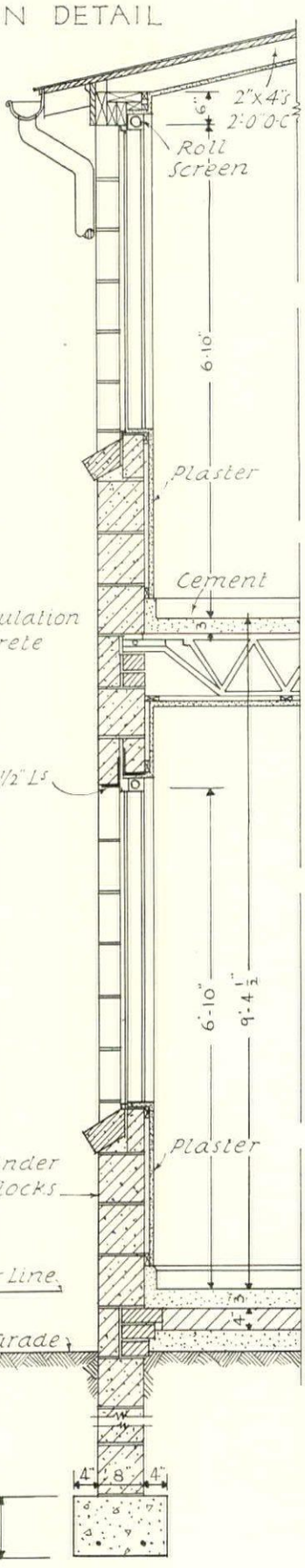
DRAIN DETAIL

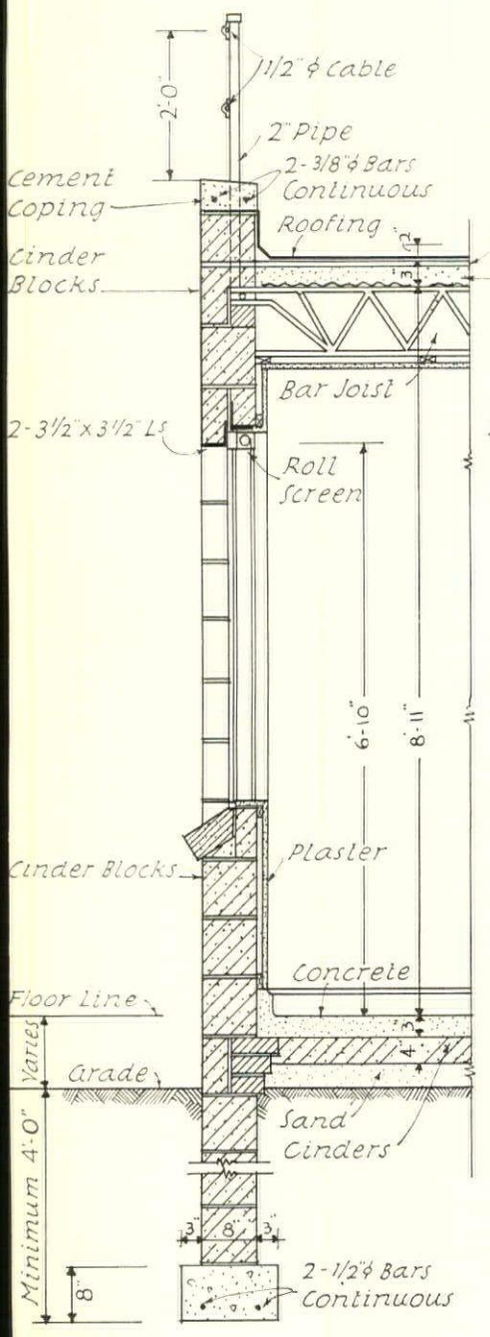


SECTION

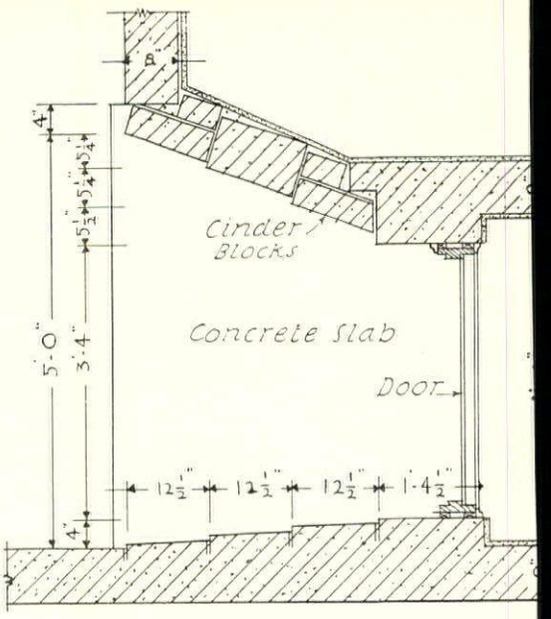
LINTEL for CORNER COLUMN



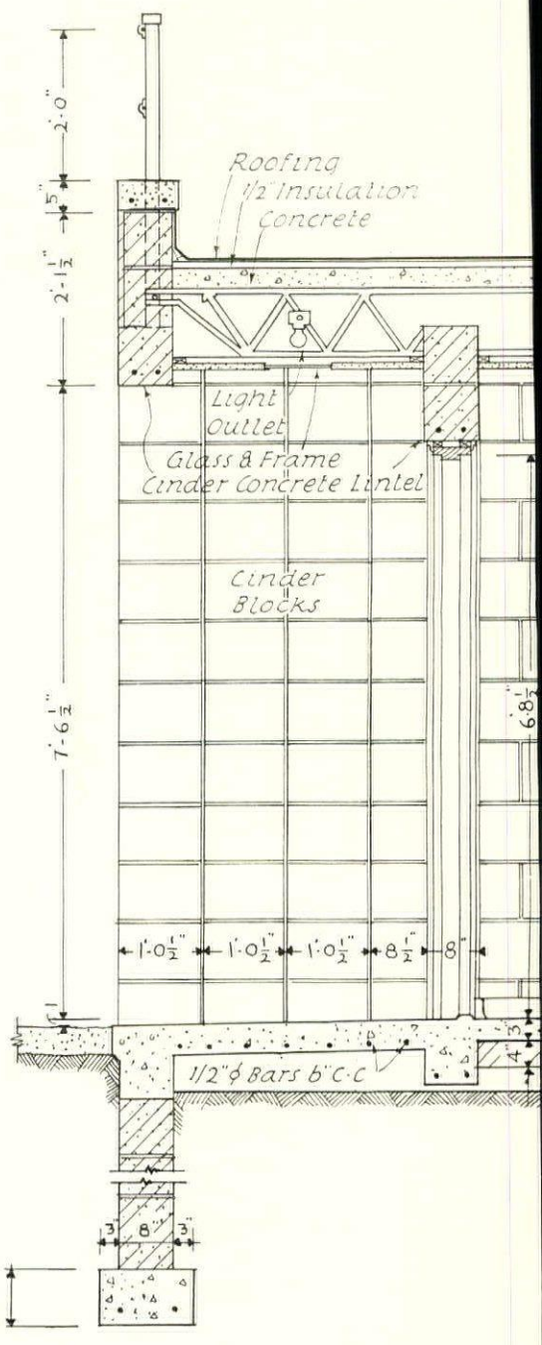




TYPICAL EXTERIOR WALL SECTIONS

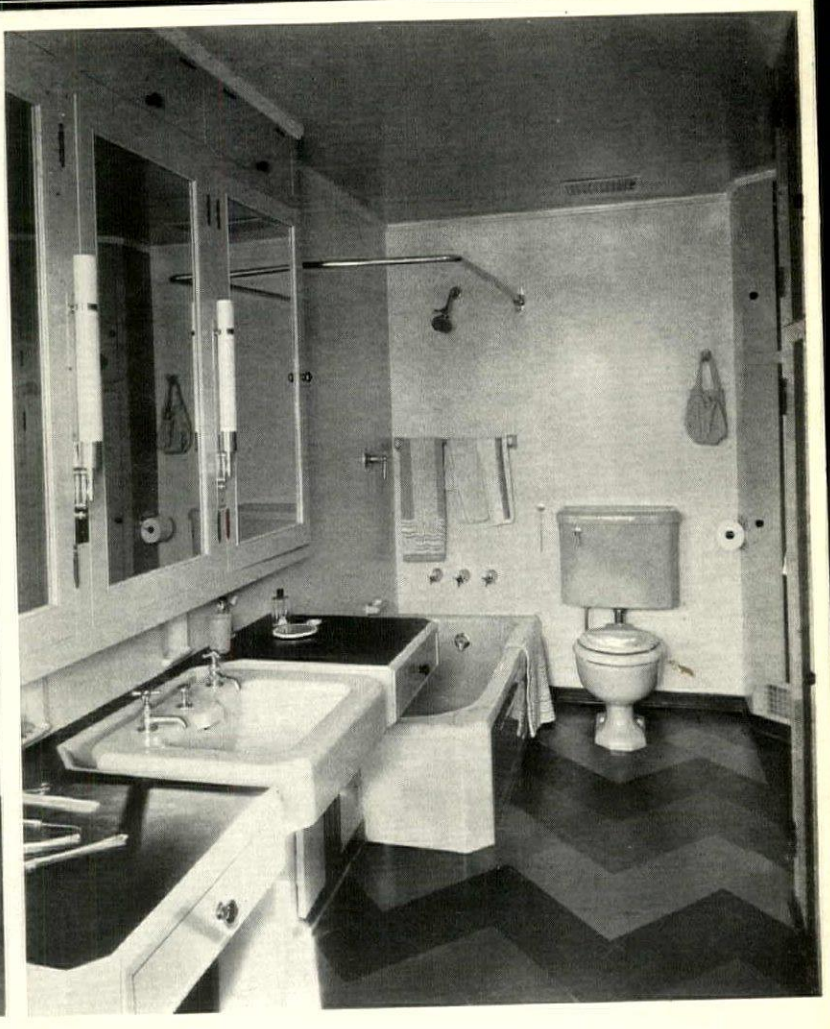


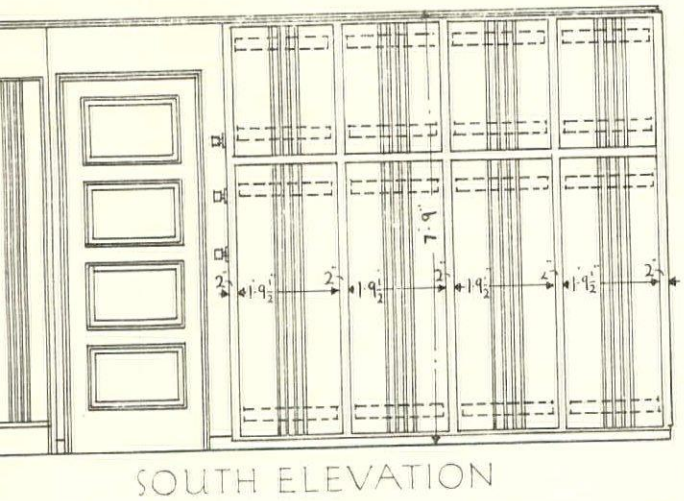
PLAN OF ENTRANCE



SECTION OF ENTRANCE







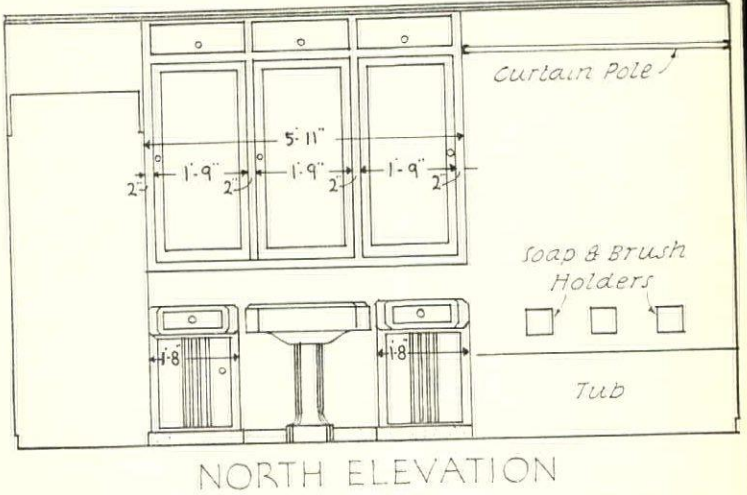
SOUTH ELEVATION

Scale in Feet

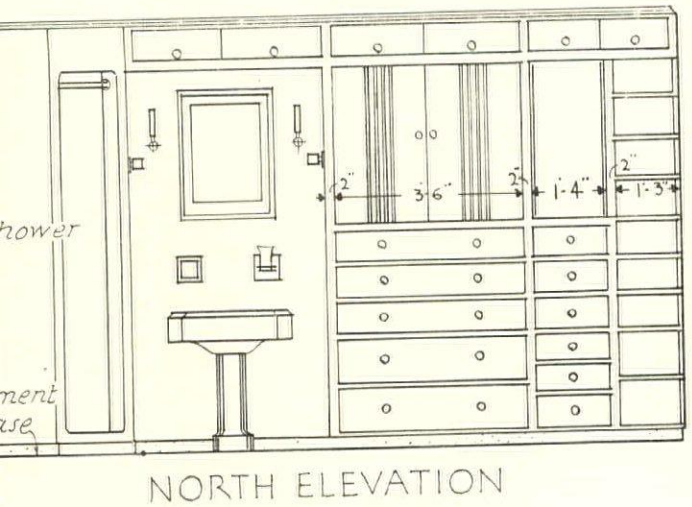
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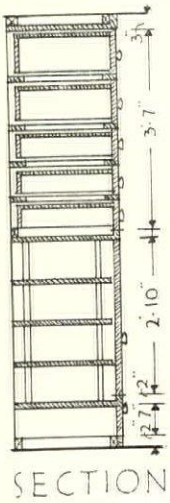


NORTH ELEVATION

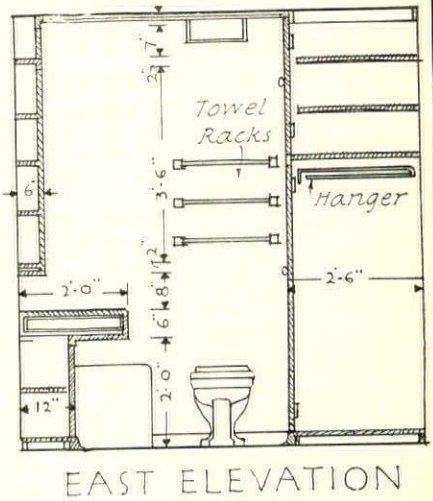


NORTH ELEVATION

Details of Dressing Room with Shower

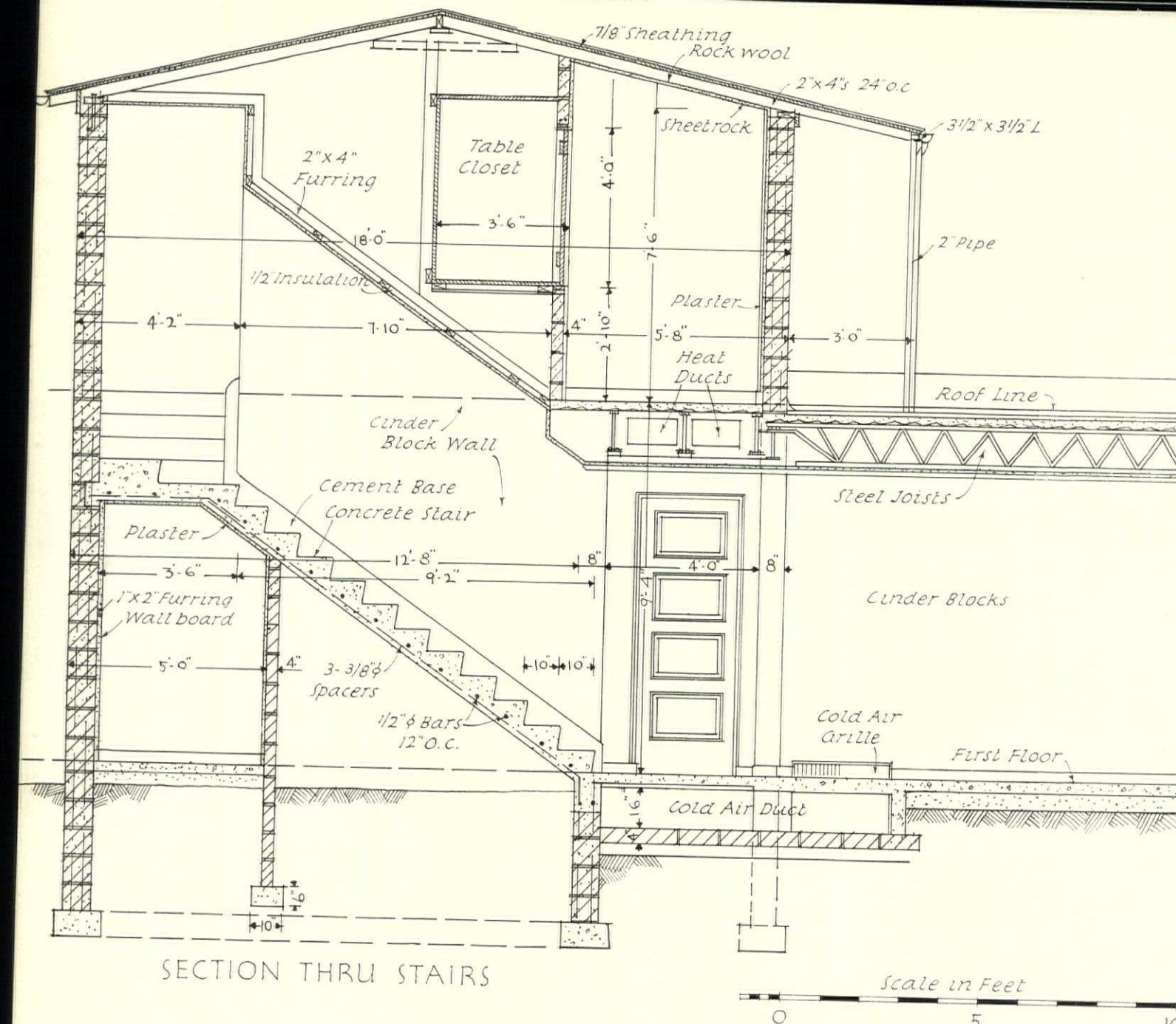


SECTION



EAST ELEVATION

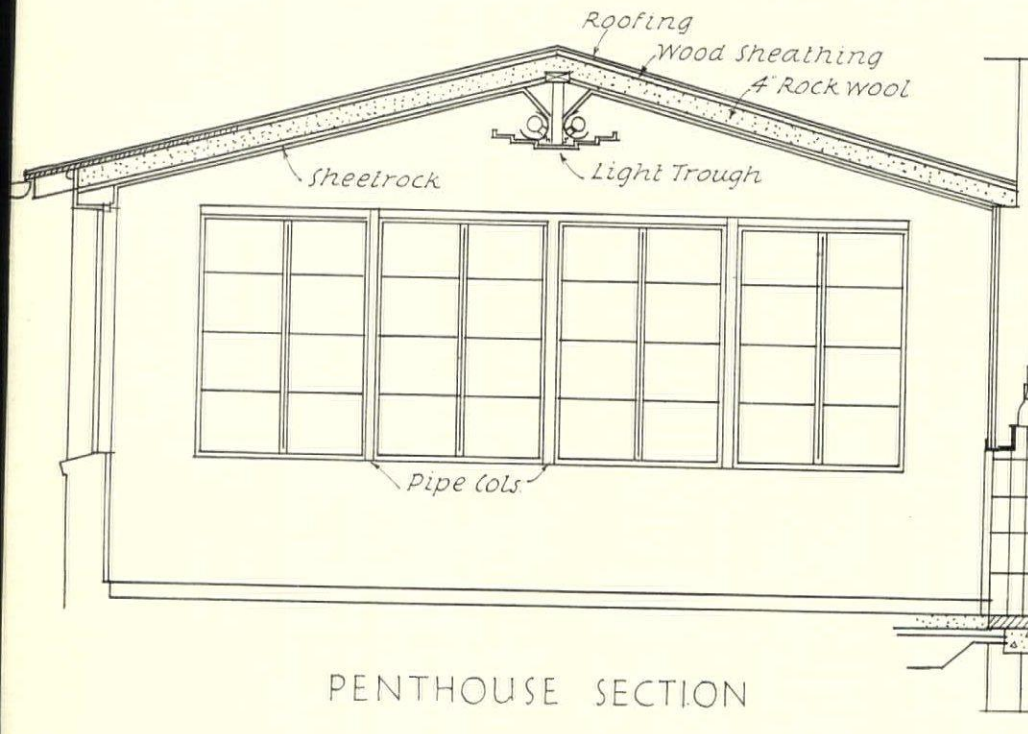
Details of Dressing Room with Bath



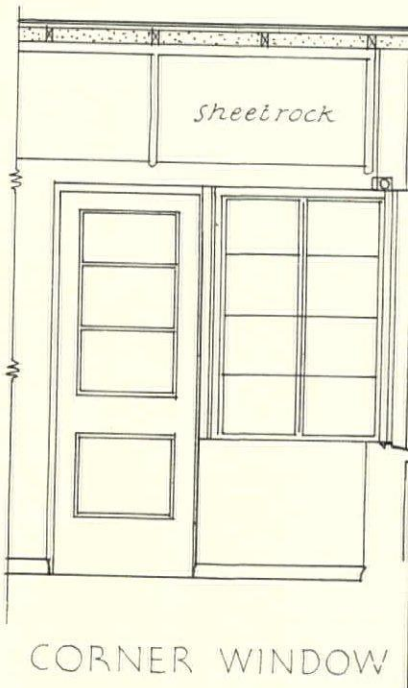
SECTION THRU STAIRS

Scale in Feet

0 5 10

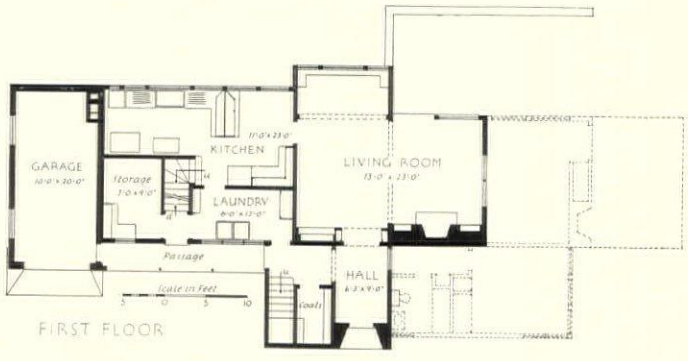


PENTHOUSE SECTION

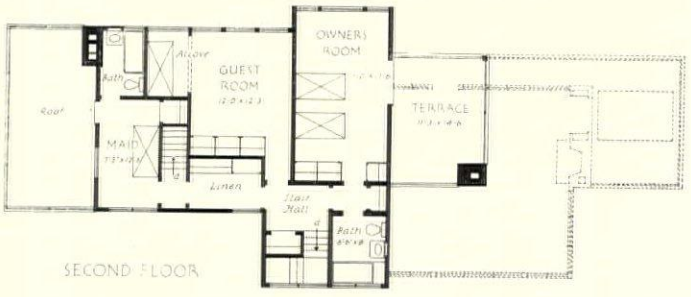


CORNER WINDOW





FIRST FLOOR



SECOND FLOOR

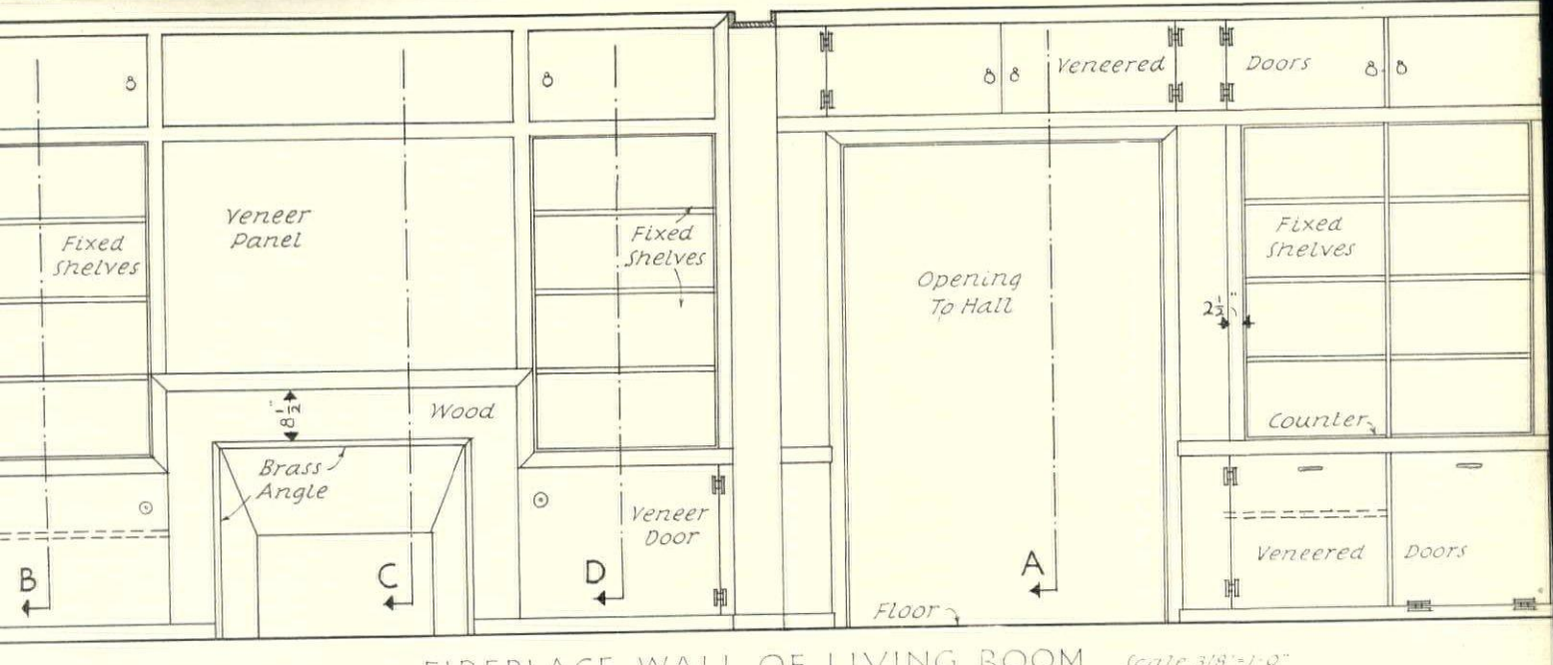
IN WHAT is probably the first modern house in Massachusetts, Eleanor Raymond of the firm of Frost & Raymond has designed a house that demonstrates particularly well one of the frequently sounded virtues of the style — the adaptability of the house to the landscape, as a setting and for the opportunity which its terraces and open areas give the occupants to enjoy the landscape. Departing from usual construction methods, Miss Raymond has built the house of matched rough-sawn cedar boarding, the joints being sealed for waterproofness. The boarding is painted gray green, against which stands out the bright red of the door, railings and posts supporting the roof of the open passage. Due to reduction in size from the original plan (shown in dotted lines), the flue of a chimney had to be brought out at the corner of the porch. The interiors are utterly simple in form, all moldings are omitted and flat, smooth surfaces are characteristic. Interesting elements in the decoration are the white birch paneling in the living room, painted sandalwood in color, and the lacquer-red linoleum floor in the kitchen



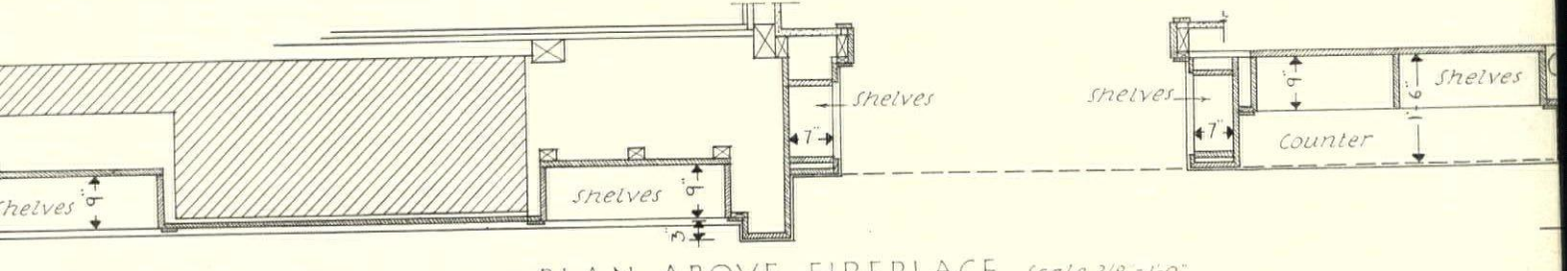
IN keeping with the unit of design, interior details as well as the mass of the house emphasize the horizontal rectangle, as shown here in the living room fireplace, windows, bookcases, and incidental furnishings. The coloring is green, blue-green, lacquer red and black



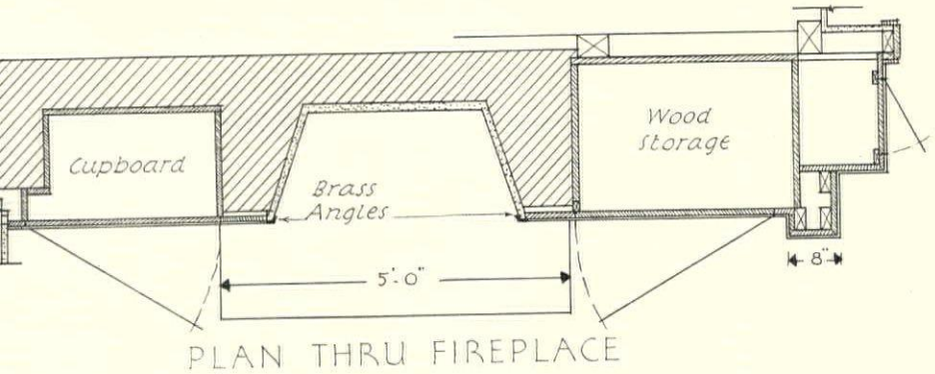
Flush doors and built-in equipment, two frequent marks of modern interiors, are illustrated in the entrance hall. It opens directly into the living room, unseparated by a door. The walls and ceilings are painted blue-green



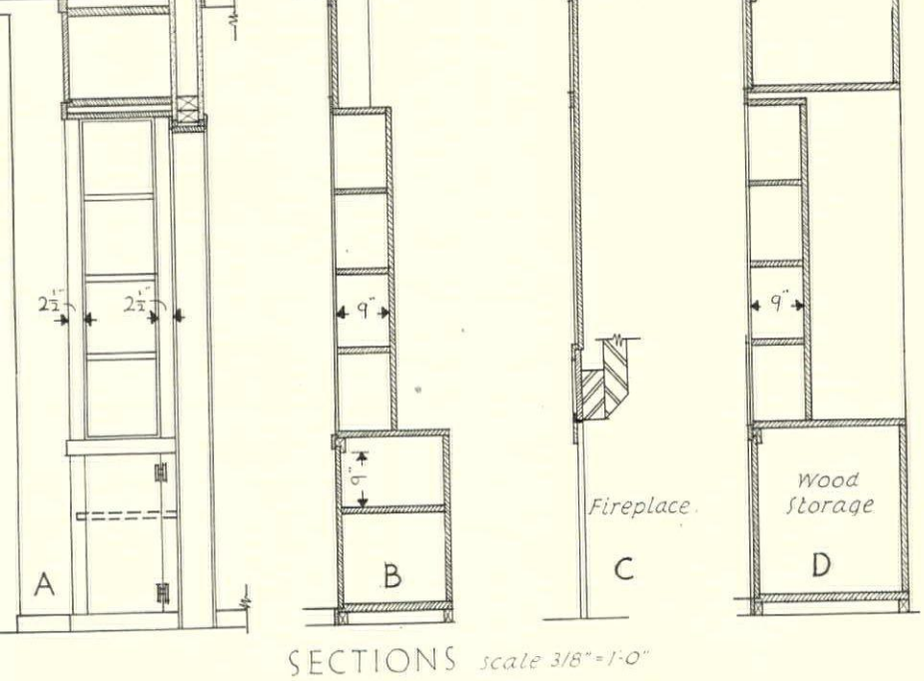
FIREPLACE WALL OF LIVING ROOM *Scale 3/8"=1'-0"*



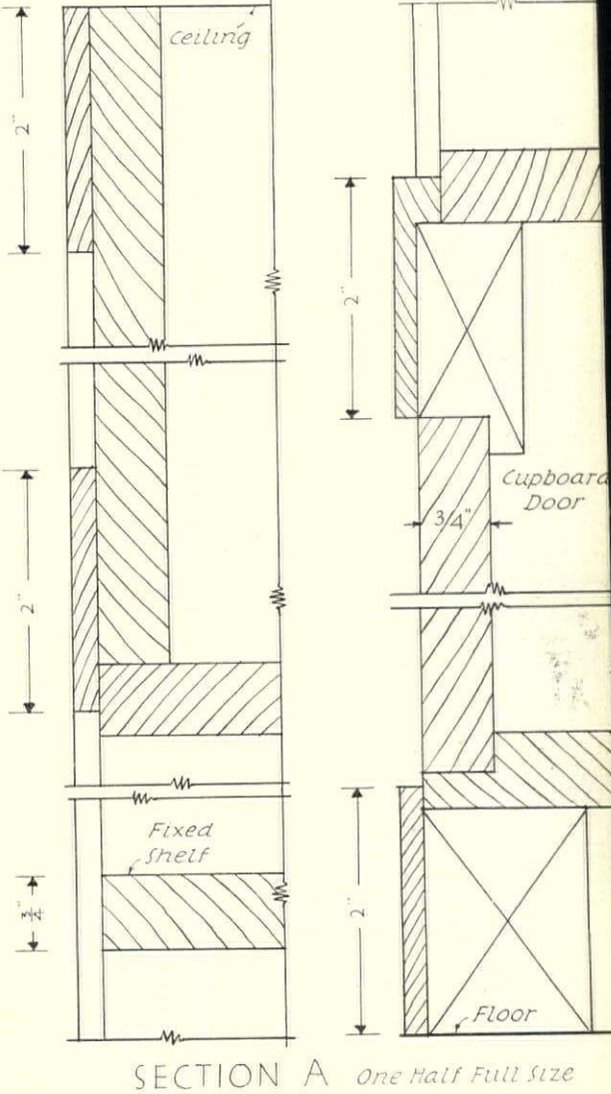
PLAN ABOVE FIREPLACE *Scale 3/8"=1'-0"*



PLAN THRU FIREPLACE

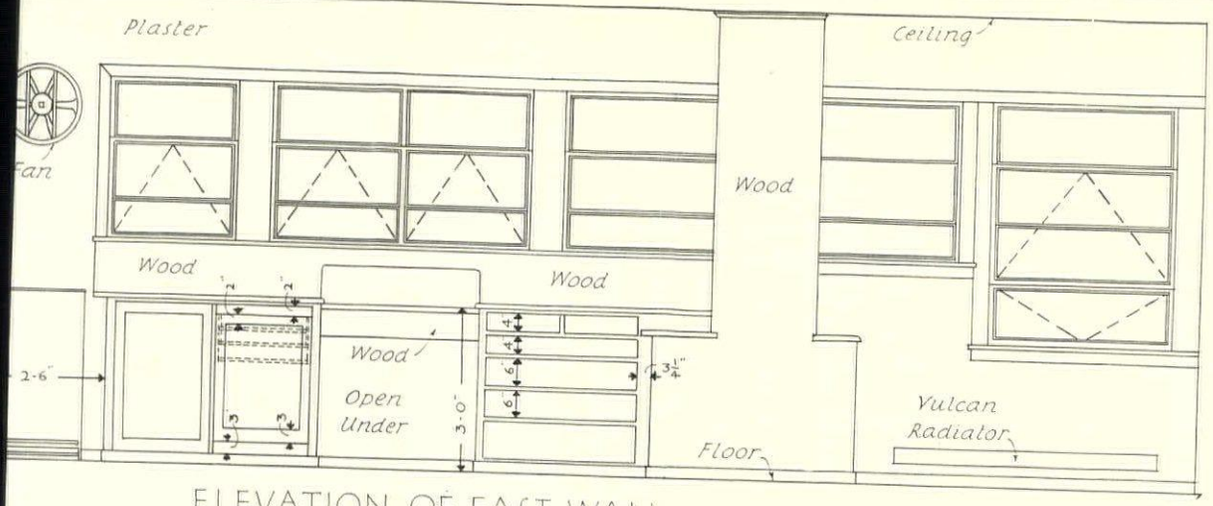


SECTIONS *Scale 3/8"=1'-0"*

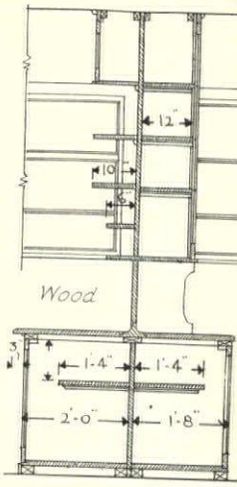


SECTION A *One Half Full Size*

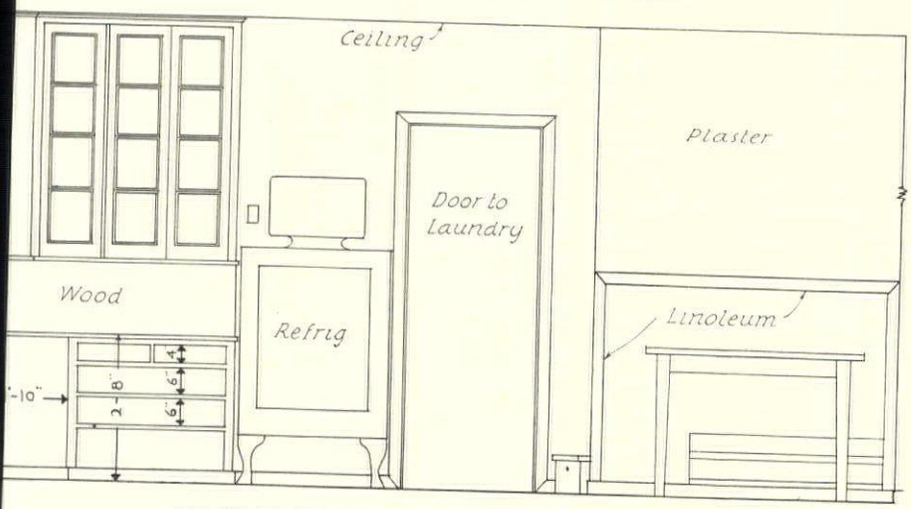




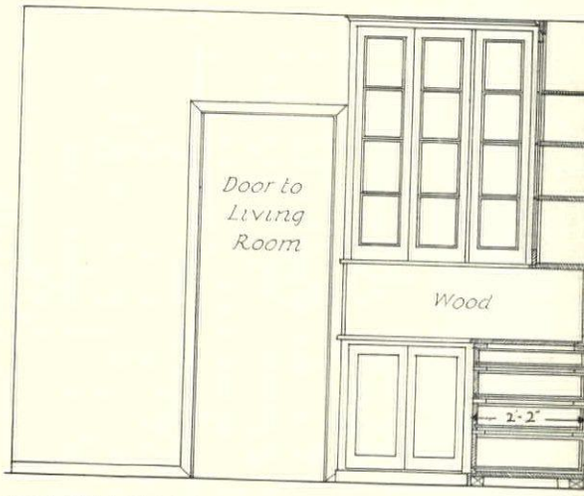
ELEVATION OF EAST WALL



SECTION A-B



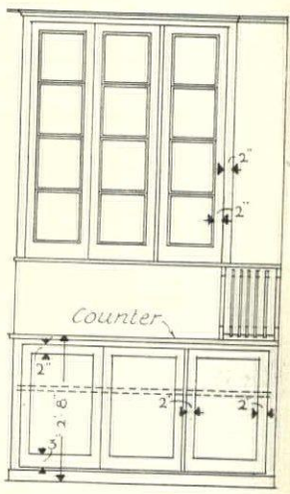
ELEVATION OF WEST WALL



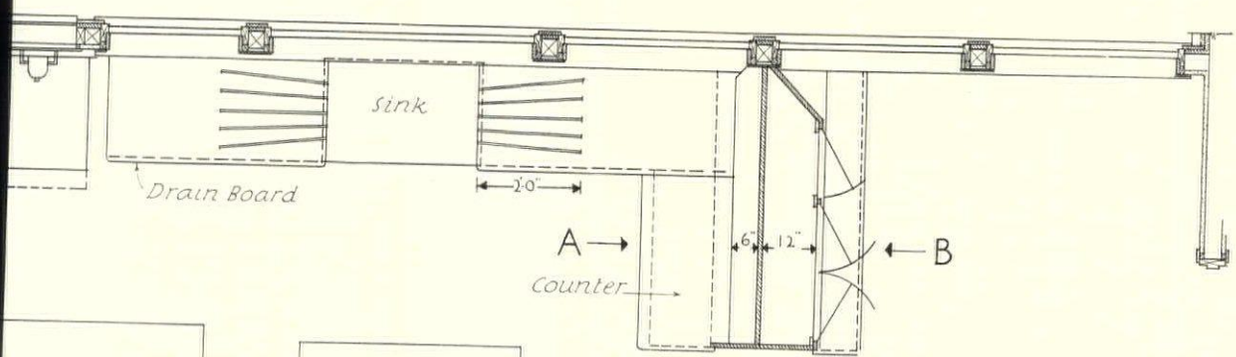
SOUTH WALL
ELEVATION

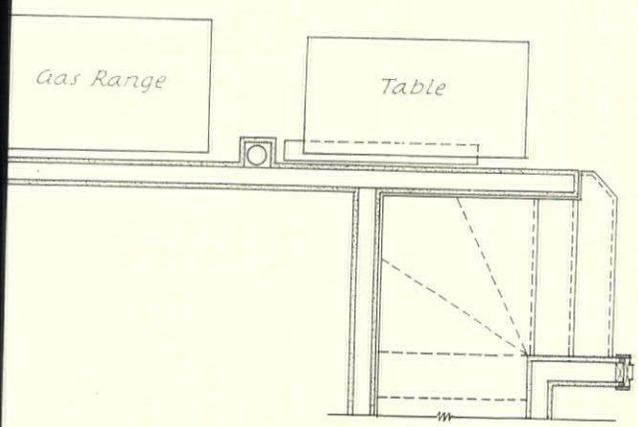
Details of Kitchen

Scale in Feet
0 5 10 15

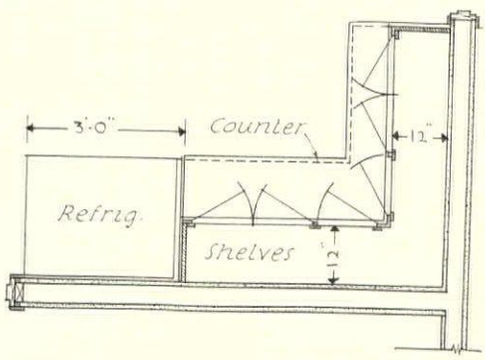


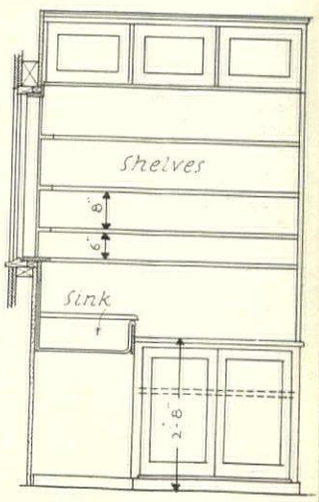
ELEVATION B





PLAN OF KITCHEN

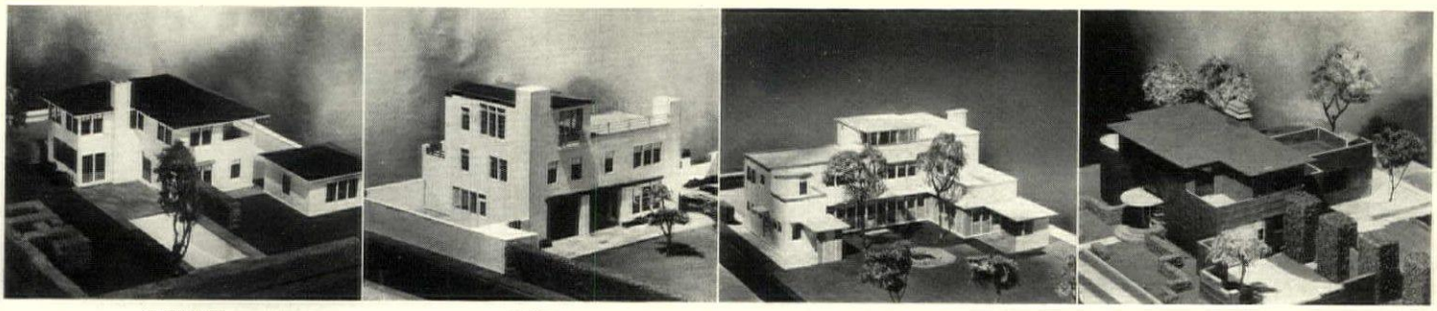




ELEVATION A



HOUSE IN BELMONT, MASS. . . . . Frost & Raymond, Architect



WALKER HOOD CORBETT VAN ALEN

IN THE SHOW WINDOW AT MACY'S

BY FRANK LLOYD WRIGHT

A WELL-MADE booklet, in the good style to which The Forum is becoming accustomed, informs me that the men who made the New York Skyline have designed a house for me. Eight houses — exactly — from which, by code-word, I may order one, or order two. If not direct, then from my local architect.

I may take my choice of the eight houses as a "modern" home is seen by the tall skyscraper minds of New York City: the minds of eight of the men who have covered the skyscraper bones of the engineer with a good many million tons of much too much flesh.

These architects, in good standing with the A.I.A., may not advertise. No, but they may be advertised. And why not Macy's? From functioneer faces to tail-pieces the department stores are now willing where the academies are rot. And wherever anything modern goes they are rot.

I remember standing up before a jammed crowd at "that Sears and Roebuck's" department store last summer on the occasion of the exhibit of Phil. Johnson's traveling "Punch and Judy" for European modernism, because the Art Institute and the Museums were willing to be unable.

The show had proceeded from the Moscow of Modern Art to tour the U.S.S.A. I received two hundred and fifty dollars as my share of the "come-down." So we are all "come-downs." We are in the department store at last for better or for worse and I don't see how it could be worse.

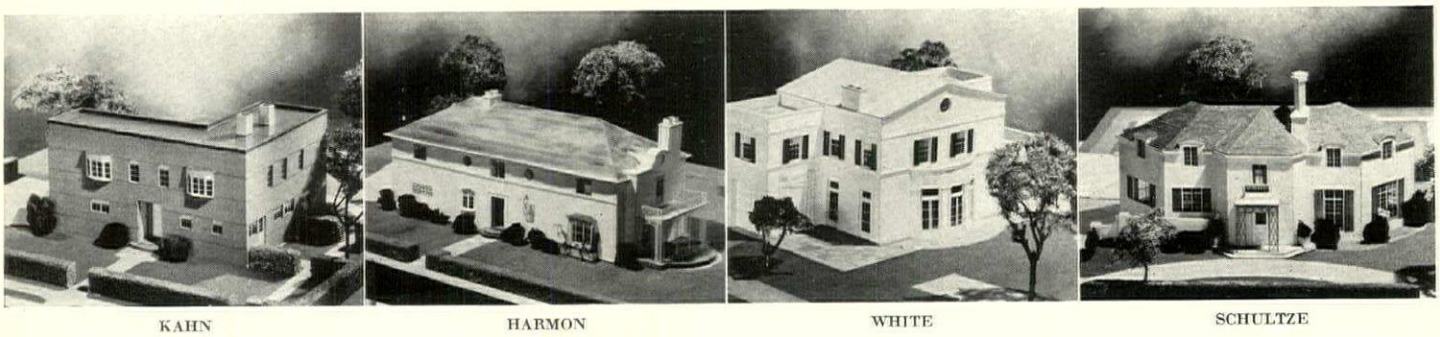
Dignified by The Forum is this latest department store event. Between a self portrait and a small tail-piece of a master work utterly otherwise we see the plan and a photograph of a model of some "Forward" house. To distinguish the "Forward" houses from each other they have been differentiated as "Hospitality" — "Outdoor" — "Sun" — "Next Year" — "Common Sense" — "Ground" — "Garden" — and "Individual": good code words in the accepted advertising manner. The code words might be more appropriate but are interchangeable except the last which seems to have little or no application anywhere and is therefore ideal for the purpose. In fact these colleagues of mine, obviously, definitely are high up in the air where modern architecture is concerned. Each would need only twenty-five to forty thousand dollars to functioneer any house at all. And they must see what the modern house looks like from high above and far away. Their little "come-downs" do resemble somewhat the cliches with which our department stores are becoming familiar as "modernistic."

But, "Hospitality" for instance, is just a Colonial house with the shingles left off and the corners wrecked to cover a plan that wastefully chases around a big central stairway to an utterly banal conclusion.

Better stick to the Telephone Company, Ralph!

"Outdoor" may be a proper name for a house that by elevation doesn't seem in the least to belong there except as a clumsy intrusion in which none of the three stories belong together. The plan would be better but for the incident of dining with a big pier between the eyes, or should I say, square in the esophagus? Blind walls are perhaps best for a dressing room, too? Anyhow they are no bar to the use of floor space in a skyscraper except for toilet purposes. But I admire the "nothing-for-a-top" skyscraper, Ray. Your little tail-piece.

As for "Sun" — Sunny Harvey's house — I like "Sun" best because it affectionately leans toward the sort of thing that has grown up in my own mind as a more modern type of exterior. But the plan is a wall-and-window plan. That is to say, an old-fashioned plan. A glorified pantry like Harvey's may blind the wall of a dining room and in many houses



KAHN HARMON WHITE SCHULTZE

one does do work with one's back to the light. The antecedent likeness of the architect shows keen eyes but, like the one who would try to live in this house, he must see from the top down. Too far away, Wiley?

We arrive at "Next Year" to find a house that "defies all the scourges that a house is heir to" — except the one touch that makes the whole world kin. I mean vulgarity. Van has seen homes similar to this one but has never seen one that showed a rotund backside to the passer-by more deliberately. To make the effect perfect the watercloset should change places with the washbowl.

Here, backed by huge green pylons, we have the originality usually achieved by the eclectic who would differentiate. Stick more closely to your precedents, Van! And watch your scale.

What better name to disarm criticism at the outset than "Common Sense?" Great crimes have been committed in that name? But Ely's house is no great crime, it is just a "little" house, he says, but must think so only because he builds so many huge loft-buildings. This little primrose invites you to "bust in" between the garage and the lavatory into a "Hall." Is a Hall common sense in any small house? I ask you. Also, I am sorry I ever started the wrap-around corner window on its international career. It makes nonsense here. But, Ely, you know your women — that good second floor is proof.

If we may have a Ground-hog why not a "Ground House" with someone in it "before it is built" — yes, but preferably someone wise enough to escape before it is under way.

What a conception skyscraperites must have of a "limited income" in this plot 150 x 100 — 150 ft. on the street. And there where the buzz wagons all live happily together in the family circle. One mass and one harmony achieved by Harmon. A good old-fashioned plan but for this noisy innovation. And for this plan a good old-fashioned exterior. A performance as recklessly conservative as this one shows modern architecture still sound (and little but sound) at the core. A safe man, indeed, Art!

The "Garden House" is no mere place for tools and the hose, nor for tea. No, it is a place for a proper New England family that hates the country but is forced to live there. Were it not for bathrooms and garage this sanctuary would be Tradition, inviolate. The world does move, somewhat, however, and Mr. White says he moves with it. Why then does he leave his "Forward" house behind him? The Colonial "tradition" splits the house in the center; as to the right so to the left. No reflexes — they are defection. No eclectic and proud of it should ever tantalize progress, Mr. White!

Finally the house "Individual." And a good idea, too. "Individual" — if possible. In plan this house is somewhat so. In exterior we have here a sad case of mixed personality struggling, finally, with five style complexes. An ingenious plan, this, by Schultze. But somewhere down the line, even before that undigested terrace enters, the correlation that is architecture is missed. Here are too many sides — periphery too great. And Leonard — your self-confessed "semi-modern" is automatically non-individual. Any semi is so and you should know it.

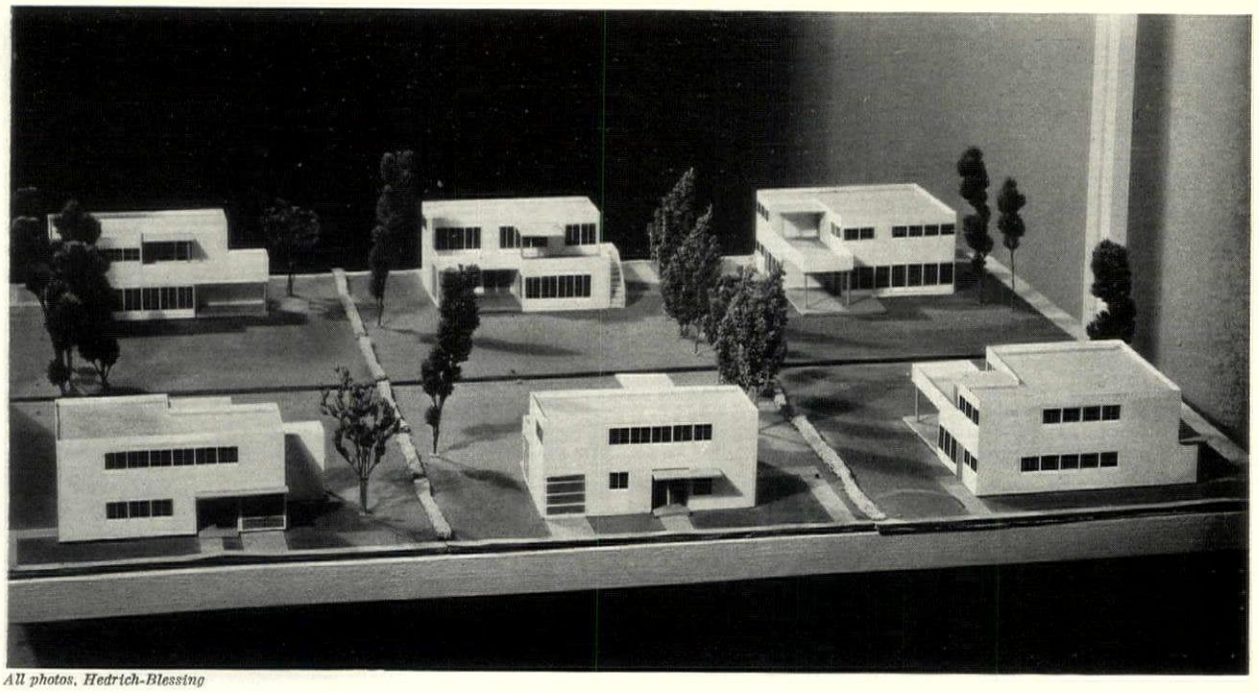
However, it was Bernard Shaw who once said one might do anything if only one talked strongly enough the other way and one might say anything provided what one did was strongly enough the opposite. It would so seem throughout this topical, tasteful and tidy little advertisement for the New York Skyline — The Forum standing by.

In no single instance is the thought of an organic architecture felt in the plan of any one of the houses.

"Modern" remains a matter of "styling" an exterior for some plan or other.

• • •

Dear boys — your senior speaking — why not go back to eclecticism and, safely, stay there? You do not know what lies beneath the countenance of an organic architecture and you wouldn't like it if you did know because you couldn't use it. Had you this inner experience now, the experience would use you and unmake your success. With it you never could have made the New York Skyline what it is today.

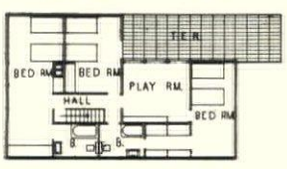


All photos, Hedrich-Blessing

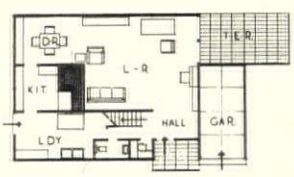
DESIGNS FOR LIVING

MODELS BY RICHARD C. WOOD, ARCHITECT

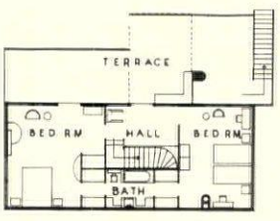
Because there have been relatively few houses constructed in this country in the modern manner popular in Europe, these models are presented as interesting examples of American possibilities in plan and design. Economical use of space consistent with a comfortable standard of living has been the governing factor in the design of these houses. The working parts, such as the kitchens, heating and laundry rooms, have been arranged entirely from their utilitarian purposes. The living room and dining room units are governed by proportion, fenestration and their adaptability in grouping furniture. Each house includes an additional bedroom and bath and an upstairs library or playroom. The central house, "Design for Living," was built at the Century of Progress by John C. B. Moore, architect.



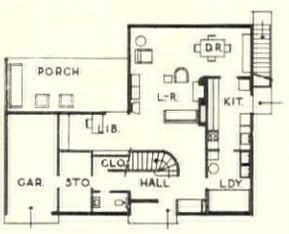
SECOND FLOOR PLAN



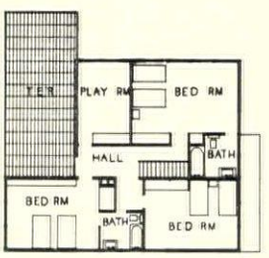
FIRST FLOOR PLAN



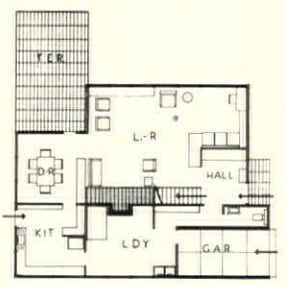
SECOND FLOOR PLAN



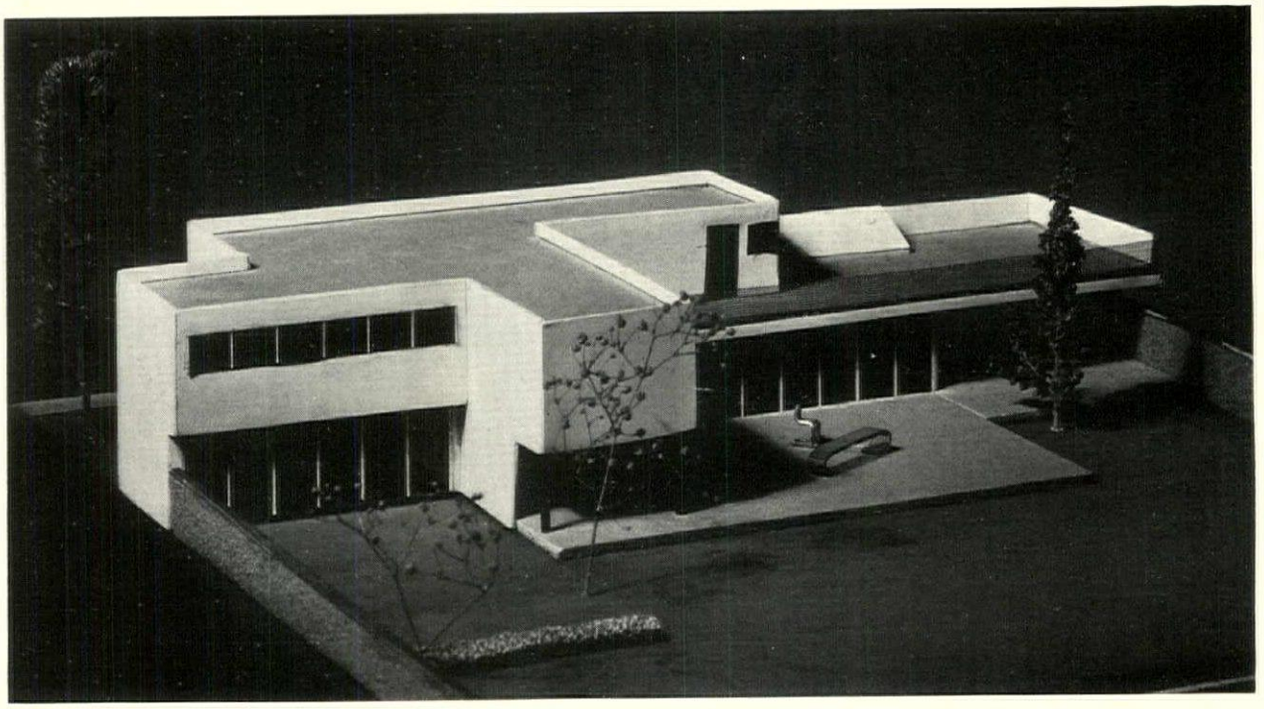
FIRST FLOOR PLAN



SECOND FLOOR PLAN

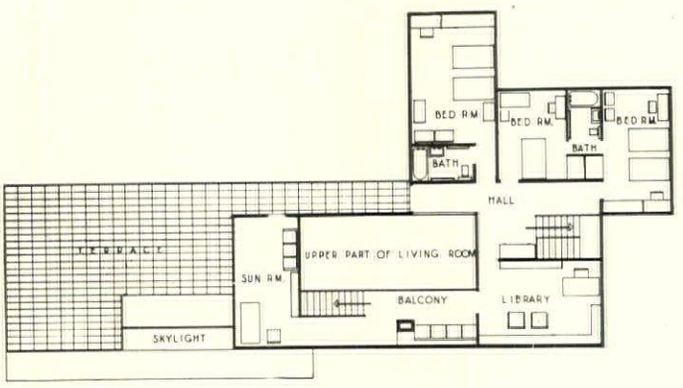


FIRST FLOOR PLAN

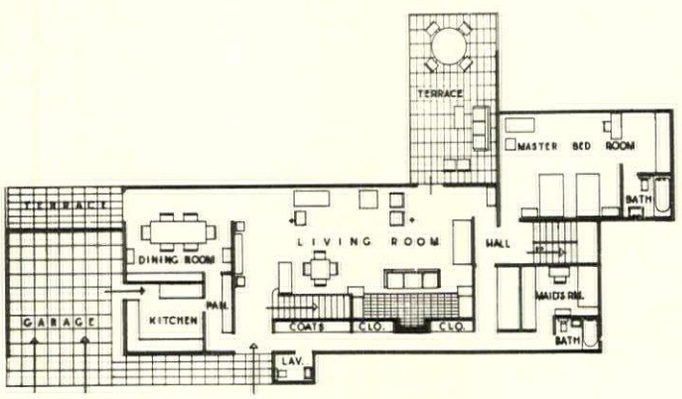


SUBURBAN HOUSE

RICHARD C. WOOD, ARCHITECT

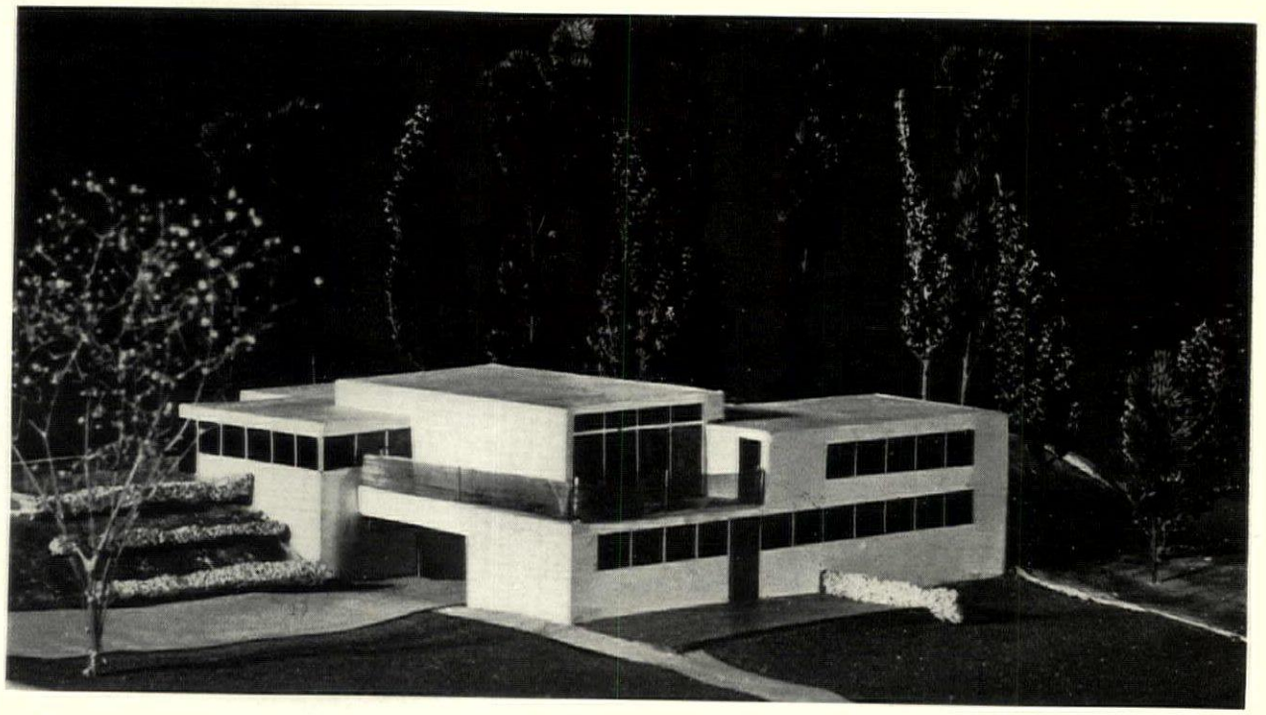


SECOND FLOOR PLAN



FIRST FLOOR PLAN

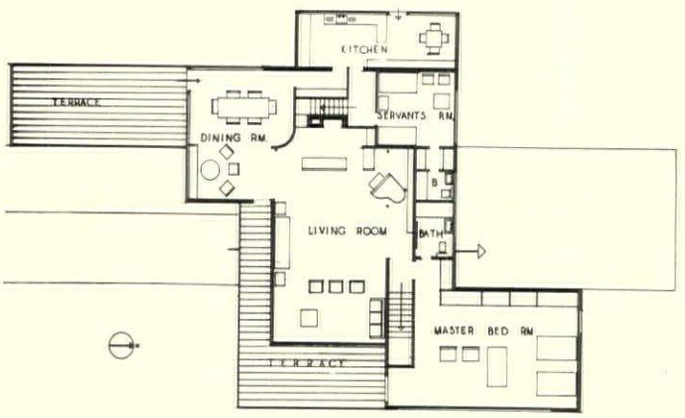
This house is 100 ft. across the front. It is designed for relatively expensive land, two lots, 50 x 100, and to be built close to the street from party line to party line. This gives the maximum size garden at the back and insures complete privacy in this garden. All the living spaces, with the exception of a secluded library, face upon the garden, and the services face the street. Part of the large living room is two stories high. A balcony runs along two sides of this, one side forming a sun room and leading on to the large second floor terrace. The master bedroom has its own private garden; garden and room divided only by a wall of glass and treated as one unit. The kitchen has a skylight to give an evenly diffused light over the entire room and also to give the usual space taken by windows to additional cupboard space



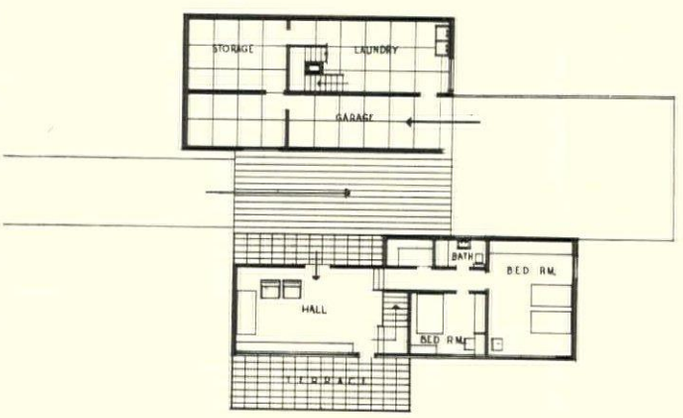
COUNTRY HOUSE

RICHARD C. WOOD, ARCHITECT

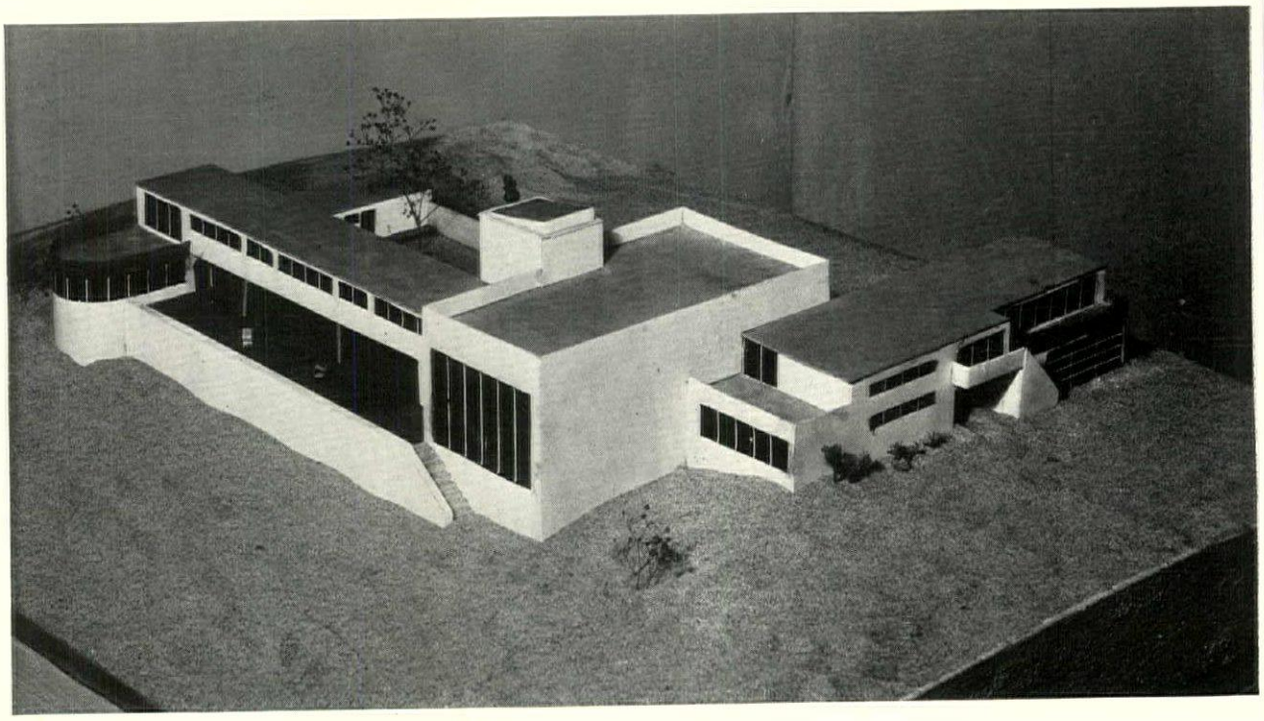
A house designed for an elderly couple who wish to retire to a smaller house. The site chosen is on a steep slope. The driveway goes directly through the first floor of the house to give a sheltered entrance and to place the service to the back. Two guest rooms are on this first floor, and with the large entrance hall (which may be used as a living room) form an independent unit. On the second floor the owners may be entirely independent. The master's bedroom, large living room and informal dining room all have access to the terrace which commands a distant view. Due to the slope of the land, one may walk out into the garden at the back of the house



SECOND FLOOR PLAN

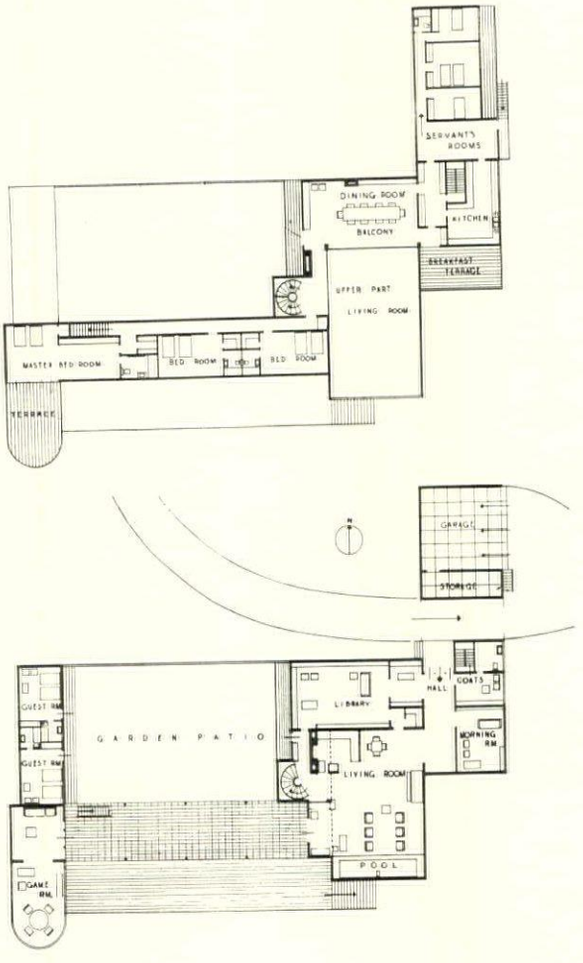


FIRST FLOOR PLAN



SEASHORE HOUSE

RICHARD C. WOOD, ARCHITECT



This house was designed to be built upon a high sand dune toward the end of Long Island. The large patio gives a protected area where the family may have a colorful garden in contrast to the surrounding sand. The large living room has a dining balcony at the back. The wall toward the sea is all of glass, and has a reflecting pool in front of this. The guest rooms are at one end of the patio and the family bedrooms on the second floor look directly out to sea. . . . In construction these houses would make use of both new materials and time-tried and honored old materials, selected as best for each particular purpose or effect. The frame would be of steel. Equipment would naturally be the latest, most efficient and labor saving devices available

"HORS de CONCOURS"

WITH KENNETH MURCHISON

Washington, D. C., Nov. 8 — Your correspondent is not in Washington, nor will it be November 8 for some time to come. But all the architectural news seems to emanate from the capital and so THE FORUM has theoretically moved to the banks of the Potomac. And I've moved the date up a little to give this news a little more of the "hot off the frying pan into the griddle" atmosphere, or is it "out of the fire into the kettle." At any rate this news is hot!

We have a very nice little place down here. All the hotels are filled with people looking for jobs, and all the office buildings filled with code experts — and so we've set up shop in a corner of Uncle Dan (Make-No-Little-Plans) Burnham's Union Station.

My search for news took me right away to Bob Kohn's office, to see the big slum clearer at work. He was working, too. It seems that every building promoter in the country, who until this year thought slum was a Navy expression for something to eat, has turned welfare worker. Depending upon which section of the country they come from, their hearts are bleeding for Italians, Poles, Negroes, or whatever race of the oppressed happens to live in their back alleys. There they are — dozens of them — all waiting to wax eloquent to the Housing Director. Of course, when they leave his office, they tie up the arteries and go their speculative ways.

If there's one thing our ex-A.I.A. president has an eye for, it's speculative profit. He can spot it a couple of slum blocks off, and when he finds it in a housing scheme, those slums don't get cleared, at least not by the speculators.

But maybe that's not the kind of news you want to hear. Maybe you want to find out what's happened to that court house you worked up a few months back. Well, it's down here all right. Along with some sewers for Two Forks, Montana, and some water works for Six Forks, Idaho. They're all waiting their turn for allocation. That's the big thing down here — allocation.

If they allocate money for your job, it means they'll hold the money for you for thirty days, during which you have time enough to find out that the State laws won't permit your town or your county to borrow any more money, or that if they will, your bonds are not good enough for Secretary Ickes to buy. Well, perhaps it's not as bad as that, but don't get fooled by this word "allocation." You're not in the money yet.

I didn't get to see Ickes — the Public Works Administrator. If you go to find him where he's the Public Works Administrator, he's the Secretary of Interior today, and then if you catch up with him there, he's the dictator of the oil industry. He has more jobs than anybody in town. If they would only split up Ickes' jobs, that would eliminate half the unemployment.

There's a great deal of respect in Washington for him. By some curious process, he got down here without knowing he was in politics. That word doesn't mean a thing to him, and neither do politicians. The fellow who swung the State of Missouri to Roosevelt has no more influence with Ickes than the man who made Kansas safe for Hoover. They've dubbed him the Man Who Spoiled the Spoils System.

I didn't see General Johnson, but I heard him. I was in Baltimore on my way down here, and he was dictating a letter to Henry Ford.

I didn't see Farley either. Now there's a man who knows who swung what. His mind is nothing but a memory book of the fellows who voted for Hoover. Of course, that's not very many people, but he knows them all. If you know which side your post office is buttered on, you'd better get acquainted with big Jim.

If you've been reading the papers, you probably know that the new tenants of Washington don't speak English. They talk in initials. There's the PWA, the NRA, the AAA. And the S.O.L's. They're Republicans. When you go into a restaurant and order ham and eggs, it's H. and E., and to the bartender you say, "Let's have an O.F." By the time I get back to N. Y., old K.M.M. will have to have a translator.

What with it all, I couldn't get to sleep one night, and not being able to get to sleep, my mind fell to jingles. That's a curious habit of mine, and the jingles are even more curious:

Mister Kohn, Mister Kohn
Throw this dog a housing bone.
Gimme a chance to clear the slums,
Throw in the gents, throw out the bums.

As it got later, it got worse:

Mr. Ickes, Mr. Ickes
Please don't let the bad wolf sic us.
How about a nice O.K.
For my little school *projet?*

Until along about five o'clock in the morning:

Mister Delano, Mister Delano
Where will white collar workers dwell an' O?
Yes, owe. What will your long range planning
Do to fuel bills and biscuit panning?

Morning finally came.

Of course, I couldn't leave Washington without attending a few code hearings. The fact that architects have a code is one of the optimistic notes of the day. If and when we get any more business, we won't need a code so much as we will another text book on how to practice.

And for the benefit of those who haven't read all about it, the draftsmen are organizing against, or maybe it's with us. At any rate, they have a few stipulations they want to write into the record — with minimum hours and maximum pay, and not maximum hours and minimum pay. I hope they get it. There have been too many architects practicing the old game of hiring an office full of draftsmen to turn out a set of drawings in a couple of weeks, working them 60 hours a week, and then firing them when the drawings are completed.

If I were a little younger, I'd head up a crusade myself. The architectural sweat shop must go!

The thing I like about the Public Works program is that everyone has a chance at it — particularly if you're from Massachusetts, Washington or Georgia. I don't know who the State Engineers are for those territories, but they certainly know what it takes to line up the Public Works Board. But poor old New York! Here we have the President in the White House, Farley in the Post Office, Perkins in the Labor Department, and Kohn in the Housing Department, and what do we get? A tunnel and a bridge! I thought that even if the President didn't have any influence, Farley would be able to do something.

Well, maybe there'll be pickings for Chicago, New York, Detroit, San Francisco and the rest of the big cities in this Federal Housing Corporation, the one that's going to do to slums what Prohibition did to saloons. Which means, of course, that soon we'll be having bootleg apartment houses. On second thought, that won't be a novelty.

Amende Honorable. Having written several articles on the subject of the Century of Progress, it was borne upon me that I ought to see that Exposition, that it wasn't fair to my eager public if I didn't do so. That if I had mis-criticized anything that didn't deserve it, I would recant, and vice versa.

So, accompanied by what we Architectural Leaguers in New York call the Little Napoleon of Architecture, Julian Clarence Levi, and chauffeur Harry R. Burp, we started out from New York one day recently, with our best suits and our finest linen and with nary a scratch on our new Lincoln.

En route we were forced to conclude that the architectural embellishments of our proud State were not so hot, as to the roadside variety, but when we rolled out of Albany on our way to Buffalo there loomed before us Hornbostel's State Educational Building. Henry was probably the first architect to realize that if he put forty or fifty columns on the front of his structure, he only had to draw one, but he got his five or six per cent on all the rest.

The bearded Hornbostel, by that simple idea, became one of our leading colyumnists. Many architects followed him. Then when high buildings became the fashion, they quickly grasped the idea of having all the floors alike and reaping the same ill-gotten gains. However, along came the Zoning Act and the poor practitioners were thrown back on their haunches once more.

That Toddling Town. All I can think of, in a hasty *coup d'oeil*, is that the Exposition was made especially for Firestone, Mobiloil, Never-Scratch Soap. *Time* and *Fortune* (our mommer and popper) also did a little light shouting from the housetops but they did it rather well and for all the people might know, it might have been the Pavilion of Mankind.

General Motors exhibit was wonderful and the Chrysler building one of the most interesting. G-M showed you how to put an automobile together in an hour and a half — instead of all summer. The Burnham Boys' Belgian Village was extremely well done, in the good old-fashioned way, and did very well financially, we understand. But Holabird & Root seemed to have run away with the Fair (and with most everything else in the West) and we would like to be classed among their admirers and — no, not *rooters!*

Too much has already been written about the Chicago Exposition so we won't bore you any more than we can help with any further facetious remarks about the buildings; why they did them that way, why the masses of crude and cantankerous color were thrown right in the face of the sculpture and the ornament; why there is no particular evidence of a plan; why the Coney Island idea of hot-dogs-and-loud-speakers seemed to be the prevalent one; or why the whole thing was given a sock in the eye by the gigantic skyride, all out of scale with everything else.

No. It's all over boys. Let's pull it down and start something new.

THE

ARCHITECTURAL

F O R U M

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BUILDING MONEY

A monthly section devoted to reporting the news and activities of building finance, real estate, management and construction

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WASHINGTON DODGE, II
Editor

A FEDERAL HOUSING CORPORATION

is now planned. Meanwhile projects for five cities are approved.

WHEN last month a Federal housing corporation was formed, some alarmists saw the U. S. entering housing on a huge scale, condemning land and slashing rentals and upsetting all real estate. While the corporation has practically unlimited powers permitting it to engage in the land, construction and management business, it was formed on the premise that housing is one of the functions of local government. The Federal housing corporation will do all that it can to promote housing and "to develop a procedure which will aid a city to work out a long-term plan on which to continue the process which the Federal government has started."

The corporation, it is reliably believed, will start with a fund of $200,000. The first scene of its operations will probably be in Washington, D. C., where it hopes to show how to clear a Negro slum, a white slum, and how to rehabilitate a blighted area. If the Federal housing corporation's projects ever are built with the intention of being more than demonstration units, or temporary aids to a city which lacks authority to engage in housing itself, it will be only because it is impossible to stir local interest.

Some hints of policy gathered from Secretary Ickes' announcement included: "low cost land in continuous blocks which involve the destruction of slums. . . . It is not proposed to standardize improvements. . . . The building of skyscrapers will not be resorted to under any circumstances . . . housing at rentals which have never before been obtained. . . . Those for whom they are built will really benefit. . . . The housing thus provided will not be competitive with existing housing of good character."

While this corporation was being chartered, local initiative won tentative approval for the following housing projects:

Atlanta. Two projects in Atlanta, one for Negroes, won tentative approval. Both involve slum clearance and fireproof buildings. Bigger of the two will be called Techwood because of its proximity to the Georgia School of Technology and the fact that one of its units will be a dormitory for 160 Georgia Tech students. Flippen D. Burge and Preston S. Stevens are the architects for Techwood, which will cost some $2,750,000, of which it is expected that $2,600,000 will be a Public Works loan. The project will cover 10 city blocks and it is planned that the city will contribute two blocks for park purposes. Not including park space, the project will have a 25 per cent land coverage. Its two- and three-story buildings will contain 557 apartments and 1,965 rooms on which the rental will be between $7.50 and $8. Eight stores and 394 individual garages are part of the project.

The housing for Negroes will occupy six blocks adjacent to Spellman and Atlanta Universities, both Negro. A loan of $1,060,500 and $187,500 local capital is sought for the project. The architects, William A. Edwards and William J. Sayward, plan three-story buildings with a land coverage of only 20 per cent. Eight hundred families will live in the project's 2,880 rooms with a rental of $4.50.

Atlantans attributed the loans largely to the efforts of Charles F. Palmer, prominent Atlanta real estate owner and one-time president of the National Association of Building Owners and Managers. Mr. Palmer took pains last month to offset any protests real estate men might have against the projects. He said the new construction will increase Atlanta's number of apartments by less than 6 per cent, whereas vacancies decreased between May and October by 20 per cent and are still decreasing rapidly. Despite these assurances by Mr. Palmer, Atlanta apartment house owners held meetings and spoke about "definite action" to block the Techwood project.



Atlanta slums, Spellman College hard-by

Commented Mr. Palmer, "The Development . . . is as much a part of President Roosevelt's 'new deal' as is the NRA, and make no mistake about it."

Prominent men are behind both housing enterprises. Techwood will have a 15-man board whose members will include Mayor James Lee Key; Clark Howell, Sr., of the Atlanta *Constitution;* Major John Sanford Cohen of the Atlanta *Journal;* T. T. Flagler of the Flagler Construction Co.; Dr. Marion Luther Brittain, president of Georgia Tech. University Housing Corp., as the Negro development will be called, will remain in the hands of trustees for Atlanta University after the loan is amortized. The trustees include prominent inter-racial leaders. Among them are Will Winton Alexander, a director of the Julius Rosenthal Fund and John Hope, president of Atlanta University.

Chicago. The Public Works Administration was pleased with its show of speed when on November 1 it announced that a housing project for Chicago which had been presented in amended form on October 27 had been approved. They were also pleased to say the site is "admirable," being within two blocks of a playground and possessing adequate transportation facilities, schools and churches. The allotment will consist of a $1,333,000 loan towards a total cost of $1,569,400 and the Public Works Administration pointed out that while this is the first Chicago loan, other and larger ones are still being studied.

Harms Park Housing Corp. is the project's official name. It will consist of 450 apartments containing 1,440 rooms. The buildings will be four-story fireproof walk-ups, with an average rental of about $9.50 per room. Among the project's sponsors is George Croll Nimmons, former president of the Illinois Chapter of the A.I.A.



Alfred E. Smith starts the demolition of buildings to be replaced by Fred F. French's R.F.C.-financed Knickerbocker Village in New York. The man with the spike is Builder French who plans to ask for more loans for more clearance. Sledge-wielder Smith is not just posing, he delivered one mighty thwack.

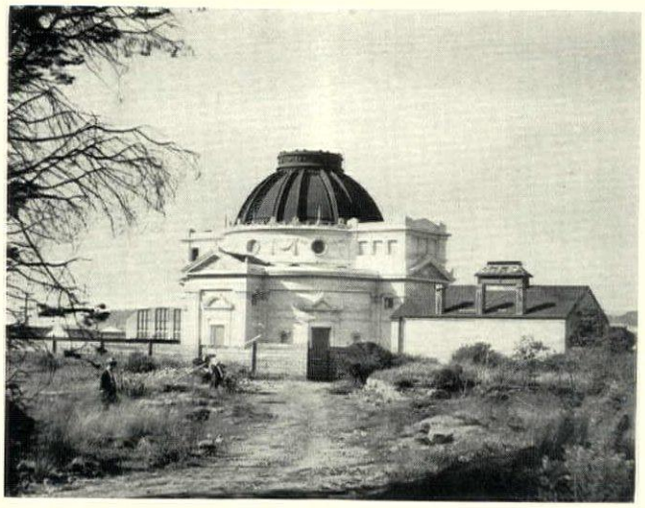
Keystone

Cincinnati. One of Cincinnati's five housing projects received tentative approval last month. It will cost $2,380,000, of which $1,980,000 will be borrowed. The housing will consist of three- and four-story walk-ups of fireproof construction, containing 572 apartments of from one to five rooms. The 10-acre site is about two-and-a-half miles from the business district and will have a 27 per cent coverage. Rentals will probably be about $9 a room. Among the sponsors are Architect Rudolph Tietig; S. M. Rowe of the Better Housing League; the Rev. M. Wagner, head of the city's Catholic charities. Other directors will be appointed by the Mayor, the Building Trades Council and the Lane Seminary Association.

Richmond. A 15-acre site less than a mile from the center of Richmond, Va., was selected last month as a site for a housing project which will consist of two-story non-fireproof apartments containing 296 four-room apartments. The total cost of the project is estimated at $780,000, of which the Public Works Administration plans to advance $663,000 as a loan. As soon as the new accommodations are completed, the City of Richmond hopes to clear some of the slums in the city, create a few parks. Rentals will average around $5.50 a month.

As in most of the other projects approved last month, Richmond's boasts a roster of prominent citizens behind it. Among them: Governor John Garland Pollard (famed as a man with a "twisted smile"); Mayor J. Fulmer Bright; Arthur James, director of the State Department of Public Welfare; Wade Adams, president of the Chamber of Commerce; Morton G. Thalhimer, president of the Real Estate Exchange.

San Francisco. "Ideally located for low cost housing" said the Public Works Administration last month of the 19.5-acre site on which San Francisco's Roosevelt Terrace, Inc., hopes to erect a housing project.



The graves surrounding this mausoleum in San Francisco have been moved and a housing project is planned on the cemetery site. But it was legally impossible to move the mausoleum itself, so it will remain in the center of a two-acre landscaped plot, housing or no housing.

Not mentioned in the PWA release however was the fact that on the same site used to be the Odd Fellows Cemetery. And while the 28,000 graves were removed some time ago a great mausoleum containing the ashes of between five and six thousand persons is still there and will continue to be there, in the center of about two acres of carefully landscaped ground.

The site is near the easterly end of Golden Gate Park and located between it and the Presidio. Nearby are the University of San Francisco, San Francisco College for Women and the St. Ignatius High School. The site is well served with surface transportation and is further enhanced for housing purposes by the recent acquisition of five and a half acres of the plot by the city for a park.

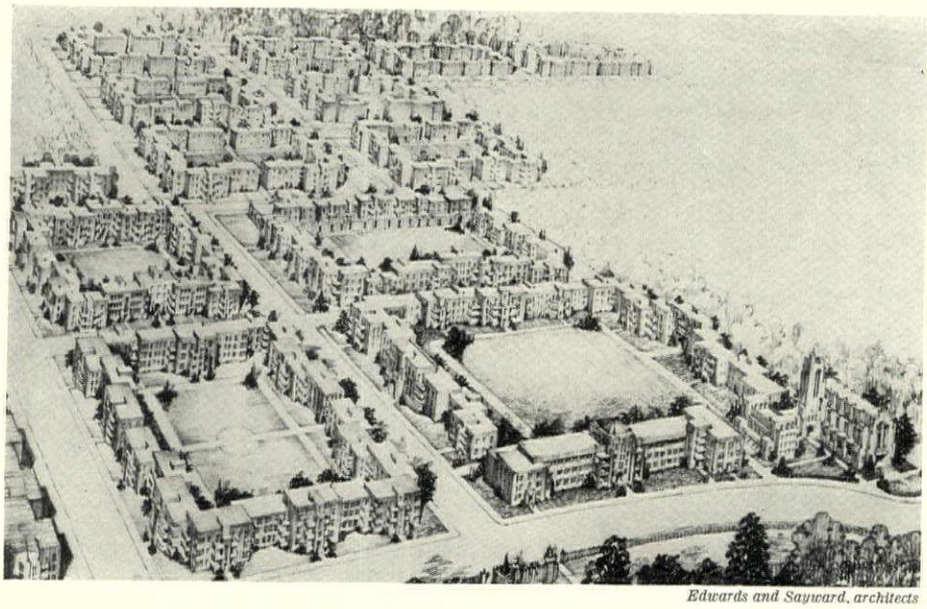
Roosevelt Terrace will provide about 886 apartments with 3,048 rooms, to rent at around $11. It will be comprised chiefly of four-story walk-ups grouped around a court which is to be dominated by a central six-story elevator building. Fireproof construction throughout is planned. Land coverage will be 28 per cent. The amount of the loan tentatively approved is $3,230,000 and is said to equal 75 per cent of the total cost. The sales price of the site was not announced and rumors have ranged from $200,000 to $1,000,000. Title to the land had been in the name of the Odd Fellows Cemetery Association, not to be confused with the Independent Order of Odd Fellows itself.

The limited dividend corporation is headed by Henry E. Monroe, attorney and potent Democrat. Associated with him is Architect Timothy L. Pfleuger. The directors include Atholl McBean, president of Gladding, McBean & Co. (clay products) and a director in important West Coast institutions; Alfred B. Swinnerton of Lindgren & Swinnerton, contractors who have built some of San Francisco's tallest buildings; Edward H. Heller of the brokerage house of Schwabacher & Co.; and William H. McCarthy, new Postmaster of San Francisco.

An unusual financial detail of Roosevelt Terrace is that when the loan has been repaid earnings will be used to retire the common stock. When the stockholders have received their capital back plus 6 per cent interest, the property's title will pass to the State of California.

Bitter opposition to the project arose from local apartment house owners. "The project is diametrically opposed to the spirit and theme of the National Recovery program" said Eugene Fritz Jr., president of the Apartment House Owners and Managers Association. "There is no necessity for such a project with a 25 per cent vacancy in San Francisco apartment houses.

"While the South plows up its cotton fields and fruit growers are limited in production in order to maintain a decent standard of living, it is inconceivable that the United States Government would foster a project that would work a hardship on property owners who have paid their taxes through the darkest days of the depression."



Edwards and Sayward, architects

The corner church is just a suggestion in this plan for Negro housing, Atlanta



SURVEYORS ARE SWARMING

over a West Virginia farm which the Government has selected as a $250,000 homestead laboratory.

ABOVE the headline to this article is a picture of a farm. The farm is in West Virginia's Preston County. Follow the road about a mile and you'll come to Reedsville, a community of about 350 persons practically all of whom are, in the language of the South, "white Americans." Ten miles from Reedsville, in another county, is Morgantown, home of West Virginia University and a town of 15,000 people. Morgantown is roughly 250 miles from Washington, D. C.

As the picture shows, there is nothing physically exciting about this farm. It is situated on the top of a hill which is called a mountain because it is bigger than most hills thereabout. Precisely, the farm's altitude is 1,800 ft. Altogether there are 1,017 acres to the farm, of which about 700 are used for farming and the remainder are still heavily wooded.

There are a few historical things about the farm. If you had gone there a month or so ago you would have met the owner, Richard M. Arthur. He would have told you that George Washington once surveyed part of Arthurdale Farm, that it was once the property of Col. John Fairfax of Virginia. Near a 22-room farm house is still the Fairfax family burying ground. Hard by it are some 200 unmarked slave graves. If you are a Northerner you would be interested in the old log cabin wherein used to dwell the overseer of the slaves. You have seen pictures of such cabins — have seen them on the stage and in movies.

For 33 years Farmer Arthur has kept his 1,017 acres intact through good times and bad, hoping eventually to make of them "a hunting estate or something big." Last month that opportunity came. Reedsville citizens gossiped that Mr. Arthur had received $35,000 for Arthurdale, that the buyer planned to spend another $200,000 or so in developing it. Hardly had the deeds been filed than surveyors and soil chemists were swarming over Arthurdale which was thus transformed from a pretty, commonplace farm into one of the most highly interesting social laboratories in the U. S.

The buyer of Arthurdale was the United States of America, operating through the Public Works Administration through the $25,000,000 Subsistence Homestead Appropriation. Prime-mover of the development, it was learned, was Mrs. Franklin D. Roosevelt. Arthurdale was chosen because its proximity to Washington makes it a convenient laboratory and proving ground and because in the district some 300,000 people are on the relief rolls, many of them suffering acutely, many of them living in crude shanties of their own construction.

Last month Col. Louis McHenry Howe in one of his weekly broadcasts said that there will be three types of subsistence homesteads created out of the $25,000,000 appropriation:

1) ". . . where the factory is located in the middle of the settlement and some member of each family works in the factory while the rest take care of the farm."

2) ". . . on the outskirts of our industrial cities where the worker of the family goes to and from the cities every day but the family has the advantage of rural life."

3) ". . . where the little farms and settlements will be created without any industrial plant whatsoever. Here it is planned to establish various kinds of home industries, or if that is not practical in a particular case, to cultivate outside of the crops they can use themselves some crop of which there is still a lack in the U. S."

The West Virginia development will be of the first type — or rather a demonstration of what the first type can be. Because private capital was not attracted, the Government is handling the entire financing, is thus openly and proudly in the homestead business. Because there is no small factory on Arthurdale's rolling acres, the Post Office Department will build one. In it the homesteaders (except those who work in the community center and stores) will make some of the heavy articles (sacks, tables, et al.) which the Post Office now makes for itself in Washington. The factory will be about a mile away from the community center and near the railroad.*

Present plans call for the erection of over 200 homes, in addition to which several miles of road will be laid out, fences erected. There will also be a 10-acre community farm, a 40-acre dairy farm, a large playfield for children and a Boy Scout camp in the woods. The school will serve as the community center and around it will arise garages, a church, stores. While the town will be run as a corporation, it will be governed by the New England town meeting system. The broad planning of the project is under the direction of John Nolen, famed city planner of Cambridge, Mass., who last month spent much time in the vicinity.

In order to have some men housed by Thanksgiving, the first 50 homes are being rushed knocked-down from a well known home builder. The remaining ones however will be designed by Architect W. E. Trevett of Chicago who has indicated that they will be of the Cape Cod type. To preserve the historical interest of Arthurdale, the Fairfax family burying ground will be made into a memorial park, the slave overseer's cabin will be preserved as it now stands.

The homes will sell from $2,000 to $2,500, with the size of their plots running from around one acre to four acres. Home buyers will be asked to make a small down payment but this can be deferred for two years if necessary. Interest rates will probably be 3 per cent (see below) and amortization will run from 16 to 20 years. It is planned to have the homes heated by hot air coal-burning furnaces and thoroughly electrified. The electricity will be made either at a community plant at one of the old mines or else some experimenting will be done with windmill generators. There will be, of course, running water, inside bathrooms, individual septic tanks.

Men selected to live in this development must pass rigid examinations conducted jointly by the Extension Division of West Virginia University, the County Welfare Board, and the American Friends Service Committee (Quaker). Those tentatively selected to date have families ranging from one to six children. All of them have been receiving public aid and most of them have been leaders in local community subsistence gardening work. All of them are jobless miners from around Morgantown and their arrival in Reedsville is awaited with mingled feelings.

Mrs. Roosevelt. Her friends know that Mrs. Roosevelt is keenly interested in the possibilities and significance of subsistence homesteads. Her daughter, Mrs. Dahl, has written enthusiastically about it in *Liberty* and Publisher Bernarr Adolphus Macfadden recently was an overnight guest at the White House and expounded his own theories on the subject (THE ARCHITECTURAL FORUM, September). Yet her connection

* The illustration at the head of the article shows the site of the first homesteads. The factory will be beyond the trees towards Reedsville.

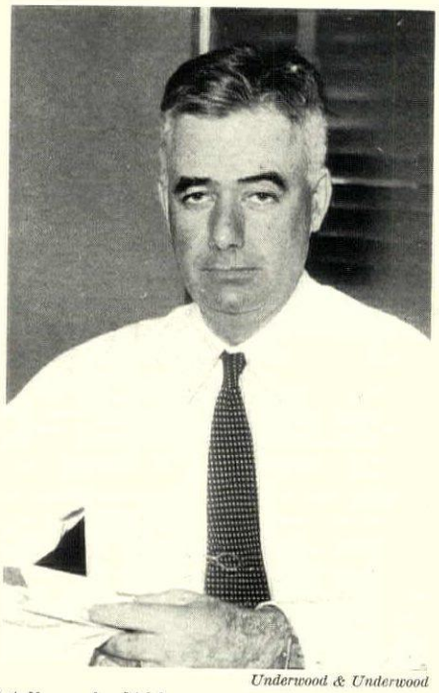
with the West Virginia project has been little publicized, due chiefly to her own instructions and requests.

Mrs. Roosevelt recently made a surprise visit to Morgantown to inspect work done for the rehabilitation of jobless miners. She found that in the past two years the American Friends had established factories in which miners and their families were making furniture and other articles for their homes and for sale — a project generally similar to her own at Hyde Park, N. Y. She also found that the University's extension division had provided 26 subsistence gardens for 1,000 men in the mining districts.

For two days Mrs. Roosevelt toured the countryside in an old Quaker motor car, spent the nights visiting in the neat two-story frame house (far from a "miner's shanty" as a newspaper recently indicated) of G. R. Werk, superintendent of the closed Crown Mine where one of the Quaker factories is located. Morgantown housewives were pleased at the report that the First Lady helped with the Werk's cooking, held a picnic conference with welfare workers several miles out in the country. Soon after Mrs. Roosevelt left, Homestead Administrator Milburn L. Wilson came down for an inspection of Arthurdale and the deal was closed. In Washington it is believed that Mrs. Roosevelt's interest is not only in this one homestead development but that she will continue to be active in the entire program.

Committee, Policy. Administrator Wilson is a hard-headed farmer who knows all the problems of tilling the soil from first-hand experience (THE ARCHITECTURAL FORUM, September). About him he has grouped an Advisory Board which meets at his call.* On it are a few men who may be theorists but a good many more men whose attitude is as realistic as his own. This Board consists of: Administrator Harold L. Ickes; Senator John N. Bankhead, chairman; Hayden B. Harris, Harris Trust & Savings Bank, Chicago; W. A. Julian, Treasurer of the U. S.; Edward A. O'Neil, president of American Farm Bureau Federation; Louis J. Tabor, Master of the National Grange; Publisher Bernarr Macfadden, back-to-the-land booster, and friend of the Roosevelts (THE ARCHITECTURAL FORUM, September); Louis Brownlow, director of Public Administration Clearing House and recognized authority on problems of industrial workers in cities; Dr. John Donald Black, professor of Economics at Harvard and chief economist of the Federal Farm Board; P. V. Cardon, director of the Utah Agricultural Experiment Station; Ralph E. Flanders of Springfield, Vt., who operates a manufacturing plant there eight miles from the railroad and along the lines to be followed in West Virginia; Dr. John A. Ryan of the National Catholic Welfare Conference; Bernard G. Waring, Philadelphia authority on problems of mines in the Appalachian fields; George Soule, editor of the *New Republic;* Meyer Jacobstein of Rochester, banker, economist, ex-congressman and specialist in labor mediations; Dr. Philip Weltner, chancellor of the University of Georgia; William Green of the A. F. of L.; Henry I. Harriman, president of the U. S. Chamber of Commerce; Dr. Clark Foreman, adviser on economic status of Negroes.

At one of its first sessions the Advisory Board made 15 recommendations which



Underwood & Underwood

Milburn L. Wilson

may be taken as a clear outline of policy for the use of the subsistence homestead fund. These are:

1. That, with due regard to immediate emergency needs, the fund be used as far as possible for the purpose of setting up demonstration projects which will point the way to a program of a permanent character. In this connection the Committee emphasized the fundamental nature of the adjustments required to the changed conditions facing American agriculture and the industrial worker and the smallness of the fund in relation to the magnitude of the problem. In its opinion the establishment of experimental projects which would point to "the way out" is vital.

2. That these demonstration projects be located with reference to the principal "problem areas" of the U. S., and not on the basis of allocation of funds on the basis of States, the projects to be selected after careful investigation as to individual soundness and merit.

3. That projects be carried on with a maximum of local initiative and responsibility assisted with adequate Federal supervision and guidance and protection from the Federal funds advanced.

4. That projects be organized and administered through local non-profit or limited dividend corporations to which Federal funds will be loaned under terms and conditions specified by the Division of Subsistence Homesteads, the latter to have the privilege of selecting one or more members of the board of directors of the local corporation.

5. That where deemed advisable, local advisory committees to the Corporation be appointed.

6. That Federal funds should be loaned at a rate of 3 per cent and amortized over a period not to exceed 30 years, with privilege of repayment at any time. Deferred initial repayments were suggested in cases where necessary, but such deferment should not be in excess of two years.

7. That Federal loans for the purchase of production equipment and machinery, including livestock, were justified when, in the judgment of the Subsistence Homesteads Division, necessary for the success of the enterprise and when not possible to obtain in any other way.

8. That either lease or sale of plots to individual "homesteaders" be made, depending upon the nature and conditions of each project.

9. That the fullest cooperation be sought of other Federal and State agencies whose resources and services would constitute a contribution to the success of the Subsistence Homesteads program.

10. That reasonable local financial aid would be desirable.

11. That adequate local agricultural and other advice and guidance be assured for the "homesteaders."

12. That "homesteaders" be assured of relief if necessary during the present economic crisis. Homestead sites will be picked in those counties where it is assured that urban relief, school and similar responsibilities will not be unfairly shifted to the homestead areas.

13. That the selection of families, and the land and sites, be made with the greatest care.

14. That, to provide for persons seeking to acquire individual subsistence homesteads in connection with individual centers, the development of local organizations analogous to holding and loan associations be encouraged.

15. That the Subsistence Homesteads Division carry on a limited amount of necessary research where such cannot be provided by other agencies. In this connection the Committee emphasizes the importance of the Subsistence Homesteads program consistent with national planning.

+ Sponsors of Dayton's Homestead units wanted a $2,500,000 Government loan (THE ARCHITECTURAL FORUM, July). Last month the Dayton papers reported that a $50,000 loan had been received from the Public Works Administration, following a visit from Administrator Wilson. Further loans are hoped for if the first units work out.

* Prof. Wilson's office last month was moved from the Department of the Interior Building to the Hurley-Wright Building, 18th St. and Pennsylvania Ave., N.W.

FIVE OCTOBER MEETINGS

high-spotted. Some harangue on costs, codes, the H. O. L. C., marriage and prefabs.

In CLEVELAND last month was held the National Conference on Low Cost Housing, and to it flocked 400 architects and building materials men, mainly to mull over the words "low cost." One result: a telegram to the President of the U. S. expressing the convention's fear that soaring prices might make a no-such-thing of low cost housing.

The conventioners heard Architect Henry Wright define a low cost house as "not a Swiss watch, but, say a very good Ingersoll." He said that flat roofs for these houses were "almost inevitable," that "the many radios will make sound control necessary," and that money and wall space should be saved by abolishing closets.

Among the speakers was Robert L. Davison, housing research director of the John B. Pierce Foundation, who said: "Until recently I have felt that it was absurd to even mention year-round air conditioning as a possibility for low cost housing. But recently I have seen estimates of installation and operating costs which have made me feel that it may be practical."

✚ From Cleveland some scurried to Chicago to the organization meeting of the National Association for Better Housing. There on the last day of the month the Mayor of Euclid, O., where a million-dollar housing project with Federal approval is getting under way, was reciting Euclid's troubles with contractors who "are attempting to make up for losses they have sustained during the depression in bidding on new work."

✚ When men want something badly they are apt to form a committee, have a conference, pass resolutions, telegraph officials and send mimeographed reports to the press.

Last month a group of real estate builders formed what they called the Home Builders and Land Developers National Committee and met in Cleveland. Their leading sponsor is Don A. Loftus of Cleveland who is president of widespread Homes Permanesque of America. He said the committee was to last "until adequate government credit is released to the building industry."

The Committee decided to ask the Government for $1,000,000,000 for first mortgage money on the grounds that established builders could start the immediate construction of 300,000 low-cost homes in 1,000 cities and find an actual and ready market for them. A telegram asking for cooperation was thereupon sent to President Roosevelt. Other resolutions expressed disapproval of the Government's contemplated entrance into the housing business; desire for tax exemption of homes costing under $5,000. Typical of releases sent to the press: "A great industry that has been slumbering through the depression will get off to a new start tomorrow. . . ."

Codes also formed a big discussion topic, the Committee agreeing with the National Association of Real Estate Boards that home building should not be under the construction code. Explained Mr. Loftus: "We do not want the wage scales cut at all. . . . In the past when big buildings were being erected and enormous bonuses were paid to the trades employed on them to finish at stated times, other workers demanded and got the same increase while employed on home building. This raised prices to the public, and we do not want this situation to occur again." Code Committee Chairman for this group is J. C. Nichols, prominent Kansas City subdivider.

While builders and realtors put on a bold front of optimism regarding the likelihood of Federal funds for private building, it was learned in Washington last month that Housing Administrator Kohn is understood to be definitely against such use of the Public Works fund and it was considered highly unlikely that any R.F.C. money could be tapped.

✚ *Mortgage Bankers.* In St. Louis some 300 out-of-town members of the Mortgage Bankers Association of America held their annual convention and debated things which a few years ago had little to do with mortgage banking.

William Francis Stevenson ("Seaboard Bill"), head of the Home Owners Loan Corp., was on hand to talk up his bonds, as he had just done at the U. S. Building and Loan League convention (THE ARCHITECTURAL FORUM, September). He did not mention the current feeling in Washington that the Government will have to end up by guaranteeing the principal of the bonds as well as their interest but he came close to it when he pointed out that "It is a governmental corporation, owned entirely by the Government, and operated for a great public purpose, and there is no record where the Government has ever allowed one of its instrumentalities to become bankrupt or default its honest obligations."

The bankers' answer was made by John W. Collins, president of Salt Lake City's Tracy Loan and Trust Co. He called the H.O.L.C. "beautiful, helpful and Utopian" and said it can succeed "only as the Government supports the bonds." He added that many a mortgage holder is in no better position to take a loss on the bonds than a home owner on the home. L. A. McLean of Louisville said he saw in the H.O.L.C. a threat to the continued existence of private mortgage banking but "We can afford to be optimistic for the simple reason that a return to normal will see the great life insurance companies gorged with money that must be invested."

Roy Wenzlick, famed real estate statistician, was at the convention with his chart of the marriage rate and business activity since the Civil War. He saw no signs of a quick recovery and noted that the monthly foreclosure rate in St. Louis in September had reached a new high of 147 per 100,000 of population. Building activity had fallen to a point where total new family accommodations in the city were less for the first nine months of the year than during a four-day period in boom times. Marriages, he said, were showing a smart rise but still had a great arrearage to cancel. Mr. Wenzlick's marriage norm for St. Louis is a net monthly increase of 350 but until September Death and Divorce were destroying 200 more families a month than Marriage was creating.

Other topics discussed included the management of property under foreclosure, lessons learned from present troubles, legal aspects of foreclosure. The Association is working on a code of its own, does not wish to come under the National Association of Real Estate Board's code.

✚ The use of steel in home construction was much discussed last month at the annual meeting of the American Institute of Steel Construction, held in Chicago. Said the three principal speakers on this subject:

F. T. Llewellyn of the U. S. Steel Corp.: "During recent years the subject of Steel Houses has aroused keen interest among architects, builders and real estate men. . . . Some investigators have assumed that the future of steel in residences lies in the so-called prefabricated or mass production house. Others have asserted that the solution is to be found in the utilization of standardized parts.

"While I am in no way opposed to these efforts, it is my belief that the future development of steel in this field will be found in houses of individual, non-standardized design as distinguished from the mass production house, and I look to architects, builders and local fabricating shops as the natural and most promising avenues of exploitation.

"I believe that the policy followed by the steel makers 40 years ago in the field of tier buildings should be revived with suitable modifications to meet the particular need of small residences. The policy then consisted in making available a suitable variety of rolled steel sections, with simple rules and tables to facilitate their use." In closing, Mr. Llewellyn quoted from U. S. Steel's new booklet *Steel Framing for Small Residences*, reviewed in last month's ARCHITECTURAL FORUM.

Col. Lewis Icre, Paris, Director de l'Office Technique pour l'Utilisation de l'Acier: "During, and immediately after the war

there was a shortage of steel in France and since we had to build a lot during those years, concrete took a leading place which nobody thought of disputing. . . . We were dismayed to find that the young architects — those of less than 40 years of age — displayed a total lack of technical knowledge for the usage of steel in buildings. . . .

"The situation remains unsatisfactory . . . because the price of steel frame construction is somewhat higher than competitive methods. . . . We actually believe that we can remove this unsatisfactory situation and win back the leading place by concentrating upon the rapidity of construction. . . .

"The hardest task will be to sell people our new methods. . . . Building contractors, at least in my country, are responsible for delaying modern methods in construction for the last half century. In our French political system, which is entirely subordinate to the influence of electors, the numerous local building contractors constitute a power which must be accounted for."

Otto von Halem of Duesseldorf: "The buildings of special interest to the steel industry are the settlements bordering on the outskirts of the cities and the homes built by private owners. In rural settlements no steel has been used so far, because it is hard to replace the local building material far out in the country and there is still a question of the suitability of steel walls for the construction of stables and walls. The use of steel for rural settlements is therefore confined to sheet steel roofs, and on larger farms to the construction of barns, especially field barns which are usually designed as steel pipe column barns with sheet steel roofs. . . .

"It goes without saying that the full economic advantage resulting from the industrially manufactured house will only be obtained when they are made in large quantities and of standard types, which in turn calls for a large demand. . . . Further difficulties are added by the fact that efforts are being made in many localities to reduce unemployment by returning to the most primitive working methods. . . . Some cities and rural districts go so far as to prohibit the use of materials for their construction work from without their own boundaries."

Institute members heard the prediction that a billion dollars worth of public works construction will be actually under way by next spring, that industrial buildings will be the next big factor in the construction market. Another speaker was Dr. D. B. Steinman of Robinson & Steinman who said the Sky Ride at the exposition is more than an amusement device because "it introduces new scientific progress that will influence the future of the structural art . . . demonstrates the artistic effectiveness of simple, honest efficient steel design to harmonize with any architectural setting."

DEMOLITION CONTINUES

but in many cases it is wrong to blame taxes entirely.

ONCE again last month wrecking crews probably demolished many more square feet of business structures than builders erected. Consolation to architects and builders: surplus space was that much reduced, the day of actual shortage brought that much nearer.

Many a real estate man considers this wholesale demolition of buildings proof that real estate is taxed beyond all reasonable limits, is unduly oppressed and abused. Yet in most cases of demolition that could be found last month the destroyed buildings were ancient structures which, while



Indianapolis: down goes the Denison

they might have had a certain residual value, had surely had their profitable lives badly shortened by the competition of newer and better buildings.

St. Louis. Thanks to State legislation relieving penalties on delinquent taxes, back tax payments in St. Louis from October 10 ran at $2,539,719 against $1,137,739 in the same period a year ago.* This development, which coincided with a reduction of about $1,000,000 in the city's expenditures must have been extremely pleasing to Mayor Bernard F. Dickman, a former real estate man who is to most real estate men an example of what an ideal mayor should be — thoughtful about real estate, stingy with city money. Yet last month Mayor Dickman, opposing a bond issue for public works, said that the tax burden on real estate has reached its limit and cited as proof the demolition of St. Louis buildings.

Aside from the point as to whether taxes have reached their limit, razed (or about to be) last month in St. Louis were: (1) *Penny & Gentles Department Store*, a five-story structure built 41 years ago; vacant since 1930 except for a grocery and meat market on the first floor, assessed at $32,000, to be supplanted by a basement garage with a parking lot on its concrete roof; (2) *the Southern Hotel*, a landmark for over 50 years, not used as a hotel since 1912, vacant for a decade; (3) *a four-story building* over 75 years old said by one of its owners to be "of no earthly use," formerly assessed at $16,000; (4) *a one-story brick building*, formerly a tobacco warehouse, assessed at $12,000, said by one of its owners to be "more of an eyesore than anything else;" (5) *a six-story factory*, formerly used by the Smith & Davis Mfg. Co., 30 years old and vacant since 1927; and (6) *the old Washington University Medical School*, built in 1892, later used as a warehouse by Butler Bros., vacant since around 1918.

*The law was passed on June 17, waived all penalties on delinquent taxes until June 30. During the next two months the deduction was cut to 75 per cent, then to 50 per cent, and for the last two months of the year to 25 per cent.

Kansas City. In Kansas City last month two buildings were to be removed from high-priced lots at 15th and McGee Streets because they could not earn taxes. One was a three-story brick building, the other a one-story structure. Both were half a century old. The value of their sites has just been boosted by a street widening.

Indianapolis. A notable building to be demolished last month was Indianapolis' Denison Hotel, built 63 years ago, famed in local political lore. The property is owned by the Perry family, chief of whom is Norman A. Perry, utility tycoon and one-time baseball team owner. He said he was tearing down the hotel because it was obsolete, a fact nobody could deny.

The Denison property is one of the largest single holdings in downtown Indianapolis, located in the heart of the business and shopping district. Several years ago plans were afoot to build upon it a modern, 800-room hotel. Now no great structure is planned, merely a modest and attractive one-story business building and parking space. Yet the owners are proud of their decision not to leave the site unpleasantly bare. Said their representative: "The Perry family has faith in the future growth of Indianapolis and feels that the establishment of this new structure will help lead the way to better times."

The new building will be considerably more attractive and elaborate than the average tax-payer. Yet all leases give the owner the right of cancellation should it be decided to expand the property further. The structure will also be called the Denison and will consist of two parts, one with a 40-ft. and one with an 120-ft. frontage. A 35 ft. drive will separate them. Both will have a depth of 62 ft. and together will have between 65,000 and 75,000 sq. ft. for the use of ten shops. Parking space will be provided in the basements, also in the rear of the building where there will be a service station and accessory shop. Architects for the structure are Edward D. Pierre and George Caleb Wright. Convinced that their building is in the main architectural current, the owners approved heartily of plans calling for fireproof steel and concrete construction, metal and glass exterior, rounded corners. Atop the buildings will be a 30-ft. high illuminated sign.

WITHOUT COMMENT

"WHEN I can get a group [of New York civic leaders] to agree upon a huge program for the whole city, and get away from speculators, then I will go before the board and ask for the largest amount ever requested. . . . I am sick of all this yelping about the East Side." *Robert D. Kohn*, PWA's director of housing.

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"It is virtually impossible to find money lenders who will finance a private home built in the modern style. Suspicious of the permanent value of the new art and doubtful of its popularity with the average home owner the mortgage companies are withholding their support until the trend is better established. They also are influenced, perhaps quite rightly, by the fact that too many modern homes have been cheaply and poorly built.

"Modern architecture in small homes will find greater favor in the Western part of the country than in New York. The average Western home is built at a cost of about $4,000 on a large plot of ground worth as much as the house itself. Mortgage holders have ample security in the value of the land and need not concern themselves with the design of the house. In New York the situation is reversed. The average private home is built at a cost of about $10,000 on a small plot of ground worth about $2,000. Money lenders must satisfy themselves of the 'resale value' of the house.

"This influence affects only private homes and does not apply so generally to office buildings. There is little difficulty, as far as the design of the buildings is concerned, in securing mortgages for office structures; first, because the mortgages are seldom held by any one company, and, second, because the financiers evidently consider the modern style appropriate for skyscrapers, while questionable for private homes.

"Whether in modern homes or more conservative designs, the mortgage value is always a point which the architect must bear in mind." *James L. Munson*, architect, addressing the Pratt Institute's School of Fine and Applied Arts.

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"Don't forget that Roosevelt came into office at a time when everybody was selling property to buy money. . . . I am not in favor of the Government's going any farther into business than it has to, but the situation is such that only Government can make the long term loans needed to thaw frozen farm and home mortgages." *Charles Hayden*, director of Allis-Chalmers Manufacturing Co.

"'They tell me I'm not eligible for aid because I have 50 acres of land in another county. . . . I'm hungry.'" *J. C. Capt*, director of the Dallas County (Tex.) welfare board, repeating the wail of a man who must divest himself of title to his property before he can be designated as destitute. Said Director Capt: "A similar case came up with a man who had a brick building. . . ."

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"This month so far is comparing favorably with September, which set the record for the year with $122,000 in sales. Our sales of business property now total more than $20,000 for October, and our rentals are the best in four years. . . . We do not rent any property that is not in good livable condition." *J. B. Drake*, manager of the real estate department of the Fidelity-Bankers Trust Co., Knoxville, who revealed that his bank is spending $12,000 to modernize Fort Sanders Manor, an apartment house, and an average amount of $700 each on sixteen other houses.

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"I do work hard; but I love work, and especially so when I feel like I'm doing something worth while. Someone has referred to the structures I have built. I think that's why I build; I enjoy it." *Jesse H. Jones*, RFC chairman, banqueted by home-town friends.

Said Lawyer Andrews: "No man has done more to make Houston what it is today." Congressman Eagle: "He is by far the most able executive in this country, not excluding a single soul. . . ." Oil Man Cullinan: "If any of you have ever played poker with Mr. Jones. . . ." Crony Timpson: "He has done probably more than any one of our citizens in building this city of ours." Editor Foster: "We are both getting old now. . . ." Smothered, Realtor Jones suffered emotional turbulence. "Friends," he said, "you all understand how difficult it is for me to say anything at all. If I should follow my own impulses, I would crawl upon my knees. . . ."

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"Payments of interest and principal on amortized loans are proceeding at a normal rate and apparently there has been a substantial recovery, so far as this company is concerned, from the uncertainty and money stringency which was so marked this Spring. At that time we adopted an extremely liberal policy toward owners of mortgaged real property who would remain on and manage it during the days of critical financial stress. Now there is a tendency on the part of these debtors to catch up with their back payments and to restore their loan agreements to a normal status. This is evidence that revenue receipts by operators of business and farm property are increasing." *J. Roy Kruse*, president of the California-Western States Life Insurance Co., of Sacramento.

"I sincerely regret that it is not possible for me summarily to halt the program of the land sharks. Muscle Shoals should furnish a lesson to the unwary. Thousands were induced to purchase land there on the representation that it would vastly increase in value. It has not and will not, and neither will the land in the vicinity of Bonneville [Ore.] project." *Harold L. Ickes*, PWA captain.

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"For some time most of the States in this taxpayers' federation have benefited enormously by payments of funds coming out of Washington. Under our present financial organization all those payments are creating new debts, implying interest and taxation. How long can the wheel turn without crushing us? How long can such a system endure?" *H. J. Hagerman*, former Governor of New Mexico, at a Western States Taxpayers' Association meet in Los Angeles.

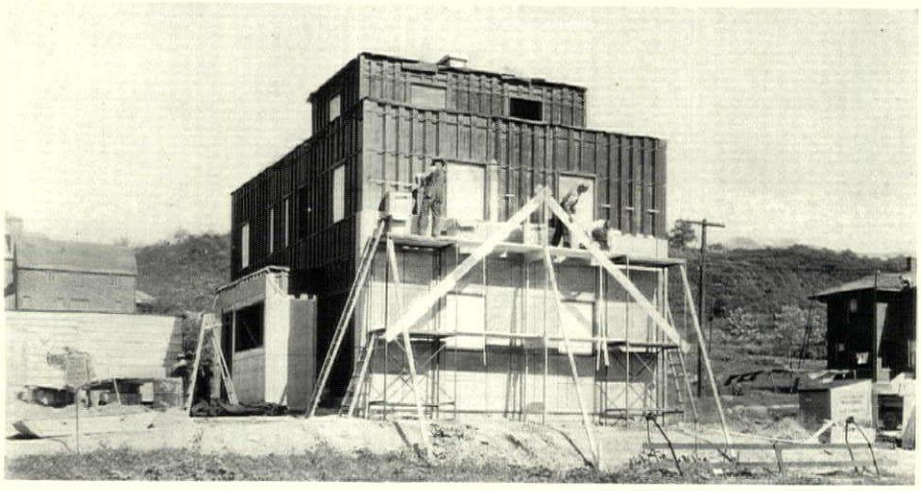
Blazed the *Chicago Tribune's* Colonel McCormick at the taxpayers from eleven States: "We are today a nation of subjects, dominated and domineered. . . . You must sign an agreement or take a code. You need a lawyer because there are so many codes. . . . You have no inviolable property rights. You have no right of contract. You cannot be guided by experience. You must ignore the law of supply and demand. . . . The Constitution can do nothing to save you. You are as helpless as a man before the king's favorites in the star chamber."

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"The President strongly hopes that as normal life returns it shall not be to repeat the process of over-building, over-expansion and collapse. He hopes we may overcome the habit of destroying future well-being for present gain. . . .

"Our laws of land ownership should be changed so that if a man is handling his land in a way that will destroy it, the part he cannot take care of should be taken away from him and given to someone who will farm it properly, or planted by the Government to some growth that will prevent soil erosion. A man has no natural right to inherit good land and pass on a waste of gullied hillsides to his descendants. We are not complete owners of the soil, but only trustees for a generation." *Dr. Arthur E. Morgan*, TVA chairman, in "as clear an exposition of the aims of the Authority as has been yet set forth" at Asheville, N. C.

At a mass meeting sponsored by a Knoxville labor union Dr. Morgan said: "One of our aims is to develop industries in small towns so that we can develop prosperity out of our own resources. For instance, we have a very fine kind of iron here, similar to what is known as Swedish iron. There's not enough to carry on in a big way, but perhaps we can develop an industry to support some one community." Wistfully he reported that real estate promoters had already laid out lots enough at one place to care for a population of 7,000,000.



A NEW STEEL HOUSE

by Wheeling enters the picture. And pictures show it in construction.

To THOSE companies which are selling or getting ready to sell prefabricated dwellings, another name was added last month. This sixth name is that of Wheeling Steel Corp., second old-line steel producer to test the prefabrication principle by building a house. The other is American Rolling Mills which built a house near Cleveland last year (THE ARCHITECTURAL FORUM, April).

This summer, work on the Wheeling Steel Corp.'s house proceeded slowly and quietly. Wheeling was experimenting, taking "plenty of time to learn from each day's work and to store away for the future a wealth of information to the profit of future steel house construction." Aside from the masonry foundation, insulating material, plaster, wood flooring and porcelain enameling, every part of the product (structural steel, roofing, pipe for plumbing, conduits, metal lath, etc.) was being made by Wheeling Steel units.

"We have not gone to the extent of forecasting any action that we shall take in the marketing of steel houses or materials for their construction," said the experimenters, "but by the time we have completed the first house we shall be able to consider our future course. It is our opinion that the structural members, including wall and floor sections, can be produced on a large scale at low cost to make possible the construction of houses such as we are building at a nominal price. This will all be developed at a later date."

Wheeling's house was designed by the Cleveland architects, Charles Bacon Rowley and Associates, who have made make-or-break use of color. On a body of medium gray certain panels and pilasters will stripe upward in blue-gray. The cornice pieces will add two horizontal lines of dark red, and the steel window subframes are to be gray-green with the sashes painted white.

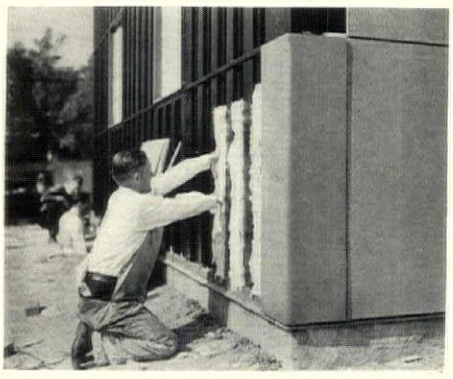
Some details of Wheeling's house:

Flanged sheet steel walls, welded to a sill plate anchored in masonry, not only serve as structural members but provide a base to which the inside and outside finishes are applied.

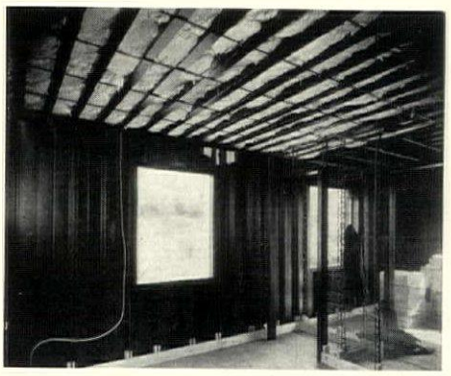
The inside finish consists of plaster on metal lath supported in the case of partitioning by the Wheeling Corrugating Co.'s patented steel studs which take the place of the customary two-by-fours. Outside, mineral wool is stuffed between the flanges and porcelain enameled steel plates are attached.

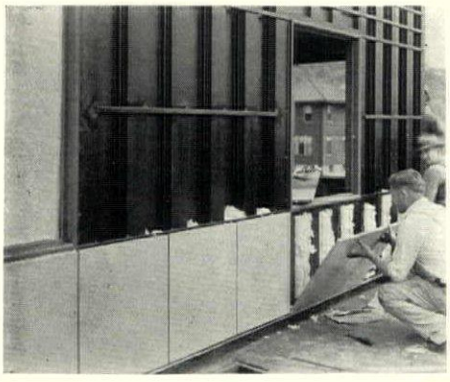
The floors consist of fabricated channels with ten-inch top and two-inch bottom flanges. When welded at six-inch intervals, the surface is a smooth steel deck over which a wooden floor is laid.

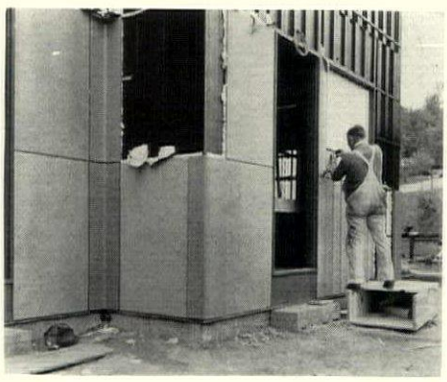
The company (which is located in Wheeling, West Va.) has assets of $112,000,000 and last month it reported a third-quarter profit of $263,335 against last year's loss of $775,353 for the third quarter, a recovery not shared by many steel mills.

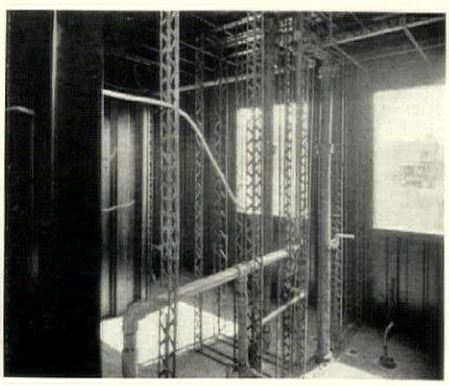


Left and around: the exterior panels are screwed onto the Wheeling steel house. The screws are applied to furring channels welded to the wall section and washers bear on panel flange. At the right is a view of the sub-floor, the bottoms of the channels resembling the usual two-by-eights. And at the lower right, Wheeling steel studs accommodate Wheeling plumbing and a Wheeling conduit.









THE STOCK EXCHANGE

buys more property. So does H. L. Doherty and two churches.

WHEN the New York Stock Exchange was making its great bluff about moving across the Hudson, when U. S. Realty & Improvement was buying space in the papers to warn land owners to band together and fight the hegira, when Jersey realtors were keeping their offices open over the week-end, there would have been considerable less excitement if it had been known that the Stock Exchange had just increased by about 10 per cent its $20,000,000 worth of holdings of Wall Street property.

This probably explains why it was not announced until late last month that the Exchange had purchased, on August 31,



Acme

The Lee, Higginson Building

the 12-story Lee, Higginson & Co. building on Broad Street. This structure was erected in 1928 when Lee, Higginson was riding the crest of the Kreuger wave, and most Wall Street men regard it as one of the most handsome buildings in their section. Its interior, from its big ground-floor banking hall to its upper corridors, is furnished as an international financial house should be. It was assessed at $2,300,000 this year, of which about half was represented by the value of the 106 x 122 ft. plot. On the 1934 rolls a $100,000 reduction in assessment is shown. No announcement was made regarding the purchase price, but the property bore a $2,000,000 mortgage which the City Bank, Farmers Trust extended until 1938 at 4½ per cent at the time of the deal.

The Lee, Higginson organization needs little space at present. The best opinion last month was that the Exchange plans to reorganize its securities clearing system and use the Lee, Higginson Building as headquarters for an affiliated bank which will also serve as a great central securities depository so that there will be no physical transfer of stocks and bonds unless the owner asks for actual delivery.

✚ Many a real estate man in Manhattan has coveted the business of The Corporation of Trinity Church. The church has productive real estate with a book value of $18,000,000 and total real estate holdings with an estimated actual value of around $65,000,000.* Its income from rents and the sale of electricity, steam and power runs over $1,000,000 net a year. Most of Trinity Church's real estate business is in the form of rental and management fees, for seldom does it sell, rarely buy. An exception to this near-rule was made in July, 1932, when Trinity Church repurchased a property it had sold in 1866 in order to protect the light of its 17-story Standard Statistics Building. Another exception was made last month when the corporation bought the 17-story Green Sixth Avenue Building which was built in 1929 by Vivian Green and sold by him to a corporation which held it but a week before transferring it to the Trinity Corporation. Estimated value of the new purchase is $2,000,000.

✚ Recently Baltimore real estate circles got wind of a big pending development. Peyton B. Strobel was lining up options and contracts on 900 acres on the Bush River. It was learned that he was acting for one "Mr. Gabson" of Zlin, Czechoslovakia, and soon afterwards it became known that John Bata, famed shoe manufacturer, was planning a big U. S. plant for Baltimore.

Mr. V. Karfik, representative of the Bata plant, arrived in Baltimore and got to work on cost estimates for the factory and a large-scale employe housing plan. But last month when these estimates were still Zlin-bound, and the options and contracts were within ten days of being closed, Mr. Bata decided to build no plant in the U. S. after all. Representative Karfik bought a ticket back to Czechoslovakia and then rushed off for a week at the Century of Progress.

The Bata plants are composed of a number of identical units. Nobody in Baltimore was in a position to know how big a factory the city almost had any more than they knew why Manufacturer Bata had his sudden change of heart.

✚ In Kansas City the Grace and Holy Trinity Episcopal Church presented its congregation with a painless means of contributing to the church revenues when it bought a neighboring lot under lease for nine years to an oil company which will pay the church, beside a minimum rental representing a net return of 5 per cent on its $36,000 investment, a bonus per gallon of gasoline sold in excess of 17,500 gallons monthly.

✚ A front-page news item in Palm Beach last month was the word that Oilman Henry Latham Doherty had purchased the big and bankrupt Hotel Alba. This structure was built at the height of the boom for over $5,000,000 and was known for a time as the Ambassador. Its name was then changed in honor of the Duc de Alba who came there to dwell in a lavishly decorated and furnished suite. The Alba bonds, sold by S. W. Straus & Co., are in default.*

Oilman Doherty has been one of Florida's best friends. Last January its Governor (an old fellow Columbus, Ohio, townsman) honored Mr. Doherty with the title of Colonel and last March its business men honored him with a State-wide Doherty Day.

Previous to last month's purchase, Mr. Doherty's interests in Florida were concentrated in Miami where his investments are estimated at well over $16,000,000 (THE ARCHITECTURAL FORUM, July). It is expected that the Alba will be rechristened the Palm Beach Biltmore and that extensive improvements will be rushed so it may open for the next season. It is also thought

* The higher figure includes the church site at the head of Wall Street, assessed at $25,000,000 and the plots of the seven parish chapels, assessed at a total of $9,000,000. When the church was new and poor two centuries ago it was given a right to all whales cast up from the high sea and then lost below high-water mark on Long Island and Manhattan. Whether or not any whales were ever so caught is not known.

*Nicholas Roberts, president of S. W. Straus & Co., was exonerated last month from a woman's charge that he had defrauded her of $10,000. "Not a scintilla of evidence" said the Magistrate who added that even if Mr. Roberts had been linked with the alleged misrepresentations the statute of limitations would have prevented him from being found guilty.

This is the Bata factory at Zlin, famed for its standardization and its time-clock-punching chief. Perhaps only Mr. Bata knows what sort of factory he was planning for Baltimore recently. But it's a safe guess that it would have resembled this one where each unit is identical and the same plans have served again and again.



Underwood & Underwood

that a Palm Beach unit of the Florida Year Round Club (special car from New York, notable sports events) will be opened and that the new hotel will be linked to Miami by Mr. Doherty's graceful Aerocars.

✚ Newt Roney, builder and seller (to H. L. Doherty) of the Roney Plaza Hotel, was reported last month to have bought 141 lots of the 680-lot Golden Beach tract, one mile south of Hollywood, Fla. Although Mr. Roney was of course badly hurt in Florida's deflation, he is still regarded as one of the shrewdest of the big time boom operators and local realtors awaited his next move with interest.

MANAGEMENT

A CHICAGO PENTHOUSE

is equipped as a gymnasium for an office building's tenants.

ATOP Chicago's 18-story Lytton Building is an old penthouse. It has been used only as storage space for all the odds and ends that accrue over years of operation of an office building. Last month the penthouse gave Building Manager Leland E. Eaton an idea.

The idea was to equip the penthouse as a gymnasium for tenants. A few tenants were sounded out and expressed hearty approval. Work has already begun in clearing out the penthouse and equipping it with exercise equipment, a golf driving net, ping pong courts, lockers and showers. On the roof outside, according to present tentative plans, will be a handball court and other exercise media.

One reason that the idea was so quickly accepted is probably the fact that the Lytton Building is the center of Chicago's wholesale floor covering and golf industries. Between its tenants therefore there exists an air of "clubbiness" that is not to be found in the usual run of office buildings. And another reason is the fact that the president of the building corporation is a one-time amateur boxer who has a high regard for exercise and was probably willing to risk the required investment more readily than another man might have been.

The Lytton Building President is George Lytton of Henry C. Lytton & Co., founders and operators of Chicago's Hub Stores, chief unit of which occupies the first eight floors in the building. In 1929 the Hub Stores were sold out to Fashion Park Associates for stock then worth $7,000,000. Last year they were bought back by the Lyttons for an undisclosed price.

Merchant Lytton's chief hobby is boxing. Forty years ago, when he started to work for his father, he equipped a small gymnasium next to his office and today, at 59, his muscles are still tough. He used to be considered amateur heavyweight champion and in 1904 opened the new Illinois Athletic Club with a match against Jack Johnson. He was one of the judges in the controversial Tunney-Dempsey fight. Next to boxing, his chief interest is music. He



Underwood & Underwood

Lytton Building's President

founded the 44-piece Business-Men's Symphony Orchestra which gives about six concerts a year, rehearses Friday nights in the Hub's fitting room. Merchant Lytton collects double-basses and oboes, lends them to other amateurs. He was one of the fortunate few who backed the now immensely profitable "Streets of Paris" at the Century of Progress.

THE COST OF HOUSING

moves upward. Life insurance companies still sell mortgages.

ON MANY of the charts compiled from figures obtainable last month (see next two pages) significant changes occurred. Among these were:

Cost of Housing. This chart represents the "approximate average monthly rental for a house or apartment of four or five rooms with bath, heat not furnished by the landlord, such as is usually occupied by wage-earners." One hundred and seventy-three cities are represented in the index and the returns are carefully weighted on a population basis. The September index figure of 63.6 showed a gain of 6 per cent over August. Small as this was, it was important as marking the first break in a steady downtrend since September, 1930. The index figure at present is 9.8 per cent lower than it was a year ago and 31.1 per cent lower than in 1929's September. The National Industrial Conference Board gives housing a 20 per cent weight in the total cost of living. Clothing, which has a 12 per cent weight, was September's best performer with an 8 per cent rise.

Life Insurance. The smaller decrease in the mortgage investments of these leading institutions shows the general trend to a better financial position caused by a gradual reduction of policy loans and improvement in the actual value of investment accounts.

In 1928 the average investment in urban mortgages as reported by 32 life insurance companies with 82 per cent of the assets was $3,714,000,000, or 30.3 per cent of their total admitted assets. Last July (the latest figure available) the urban mortgage investments of these same companies was $4,565,000,000. Despite this net gain, the ratio of urban mortgages to total admitted assets had declined to 26.6 per cent. Had the ratio remained at 1928's percentage, the 32 companies would have held $5,183,000,000 in urban mortgages. Adding an additional 18 per cent to the difference, to account for the companies not included in the report, the result is an indicated sum of $752,000,000 which represents building money diverted to other uses because of changed conditions since 1928.

A large part of this divergence has of course been due to the abnormal increase in policy loans. In 1928 the 32 companies had policy loans and premium notes of $1,457,000,000, or 11.9 per cent of their total admitted assets. Last July policy loans were $2,965,000,000, or 17.3 per cent of total assets. By the same calculations as above, one may estimate that the excess investments of life insurance companies in this asset are now $1,134,000,000.

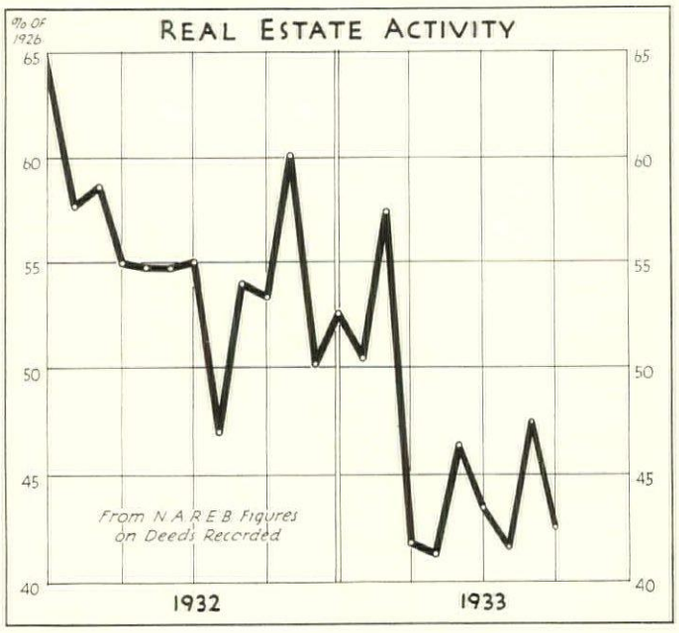
In the building money field, these two changes are the most notable in life insurance. During the same period farm mortgages declined from 13 per cent of assets to 7.6 per cent and the book value of securities investments (about 98.5 per cent are bonds and 20 per cent Government bonds) from 37.8 per cent to 36.9 per cent.

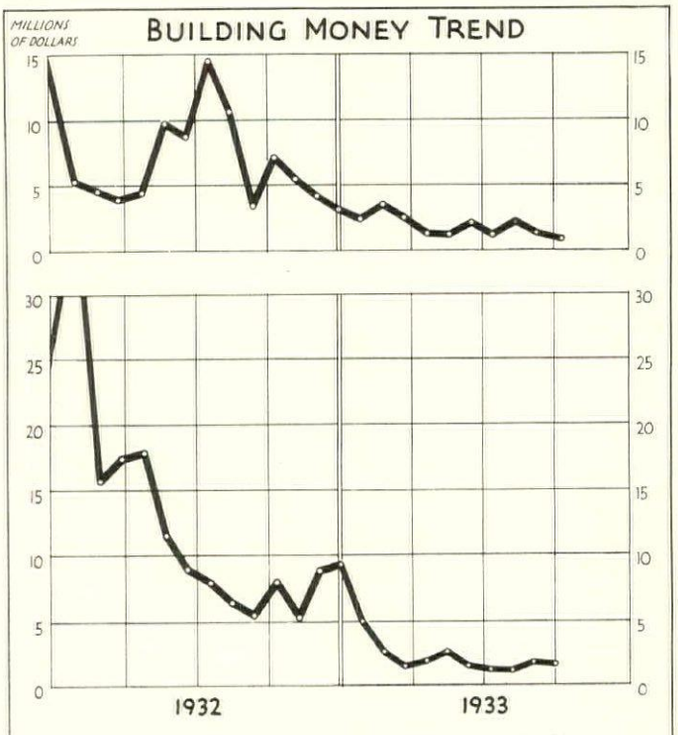
Despite popular belief to the contrary, policy loans have been declining only slowly up to July although there may have been a sharper drop since then. In millions of dollars, recent monthly figures for policy loans and urban mortgages of the 32 companies have been:

	Policy Loans	*Urban Mortgages*
Jan.	2,967	4,716
Feb.	2,997	4,695
March	2,975	4,665
April	2,987	4,645
May	2,987	4,617
June	2,970	4,588
July	2,965	4,565

The figures on the chart, which are obtainable about four months before the detailed figures on the 32 companies, would indicate that the decline in urban mortgage holdings has been halted.

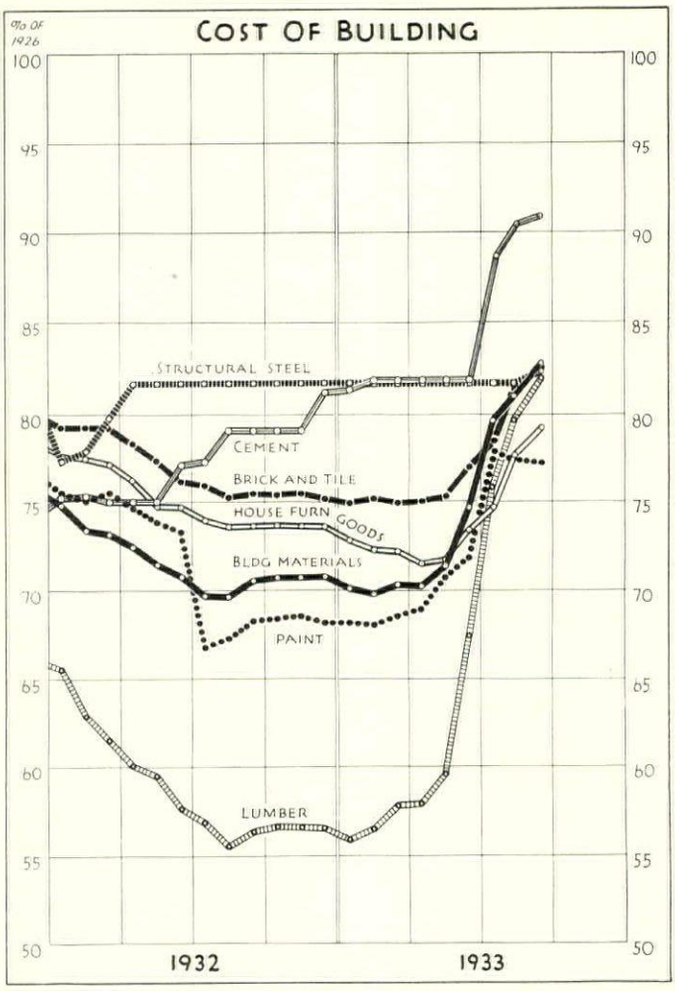
CHARTS

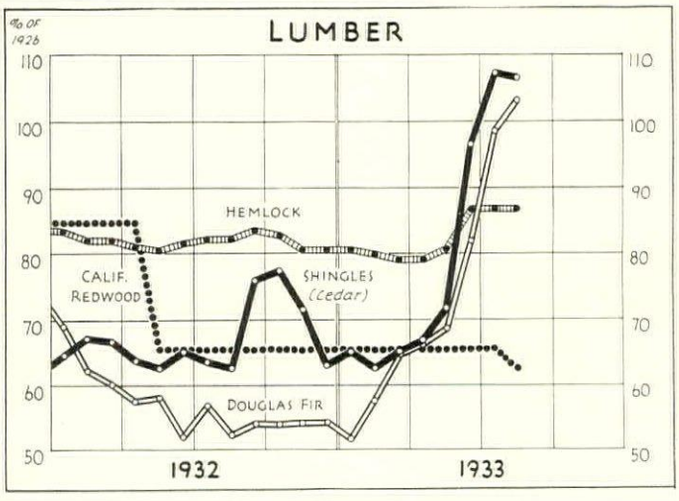


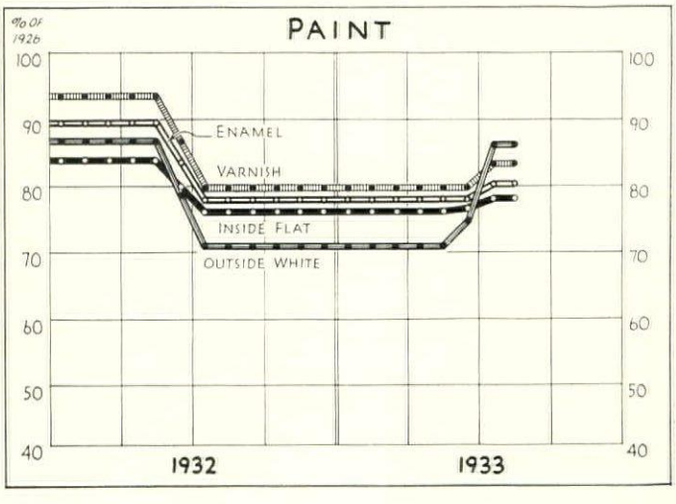


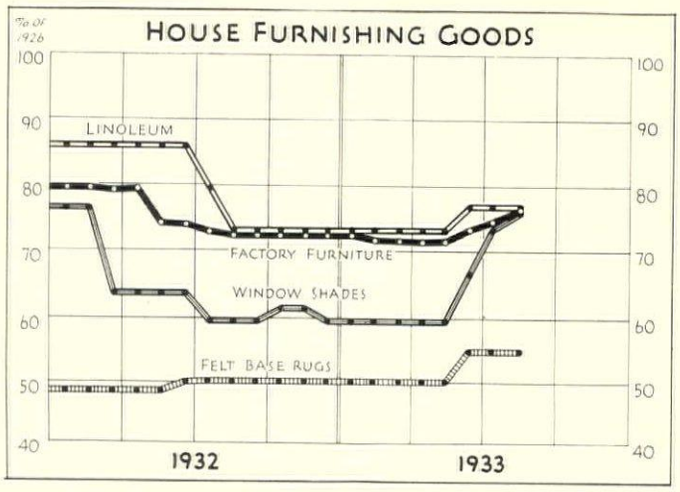
The trend of money output for building is shown by these two charts, the upper one representing the Urban Mortgage Investment Policies of 34 Leading Savings Banks, and the lower that of 28 Leading Life Insurance Companies.

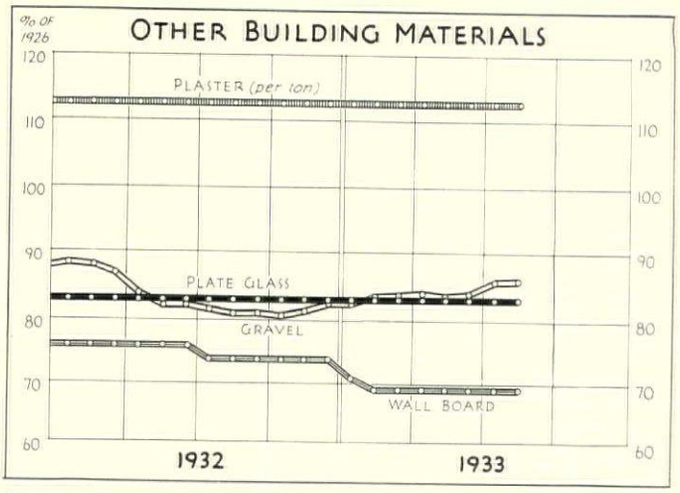
These charts are based on four week totals, compiled and copyrighted by the New York Evening Post.

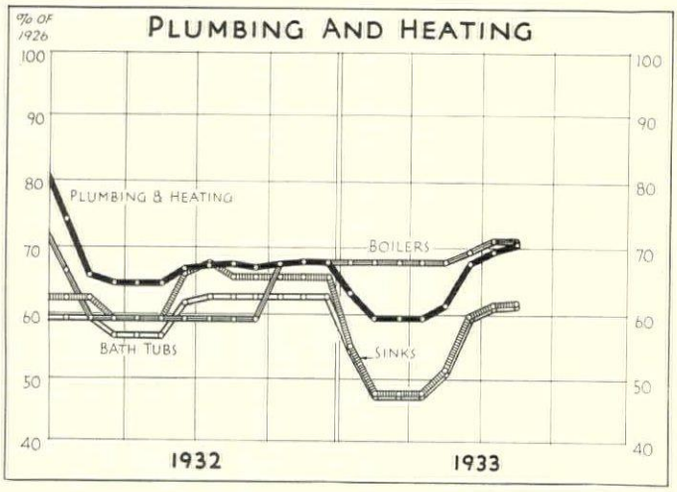


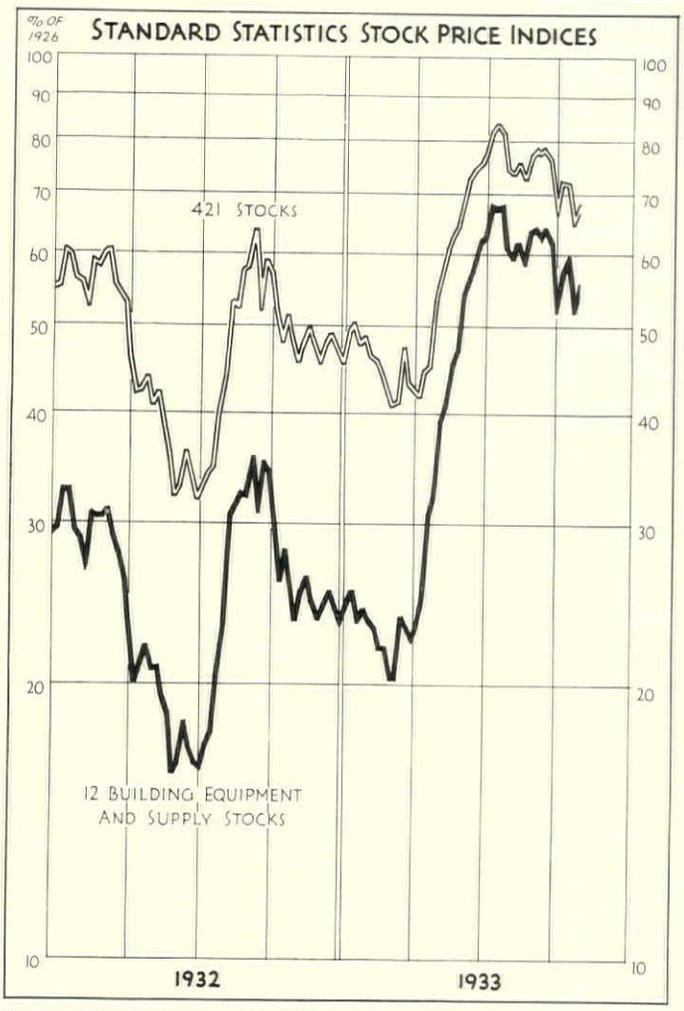


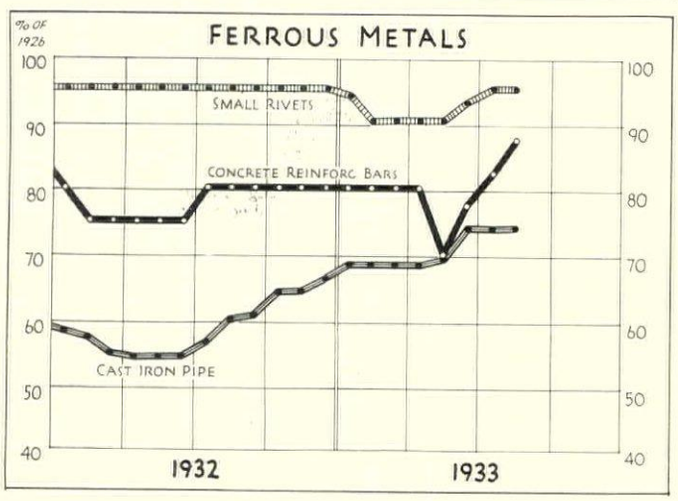


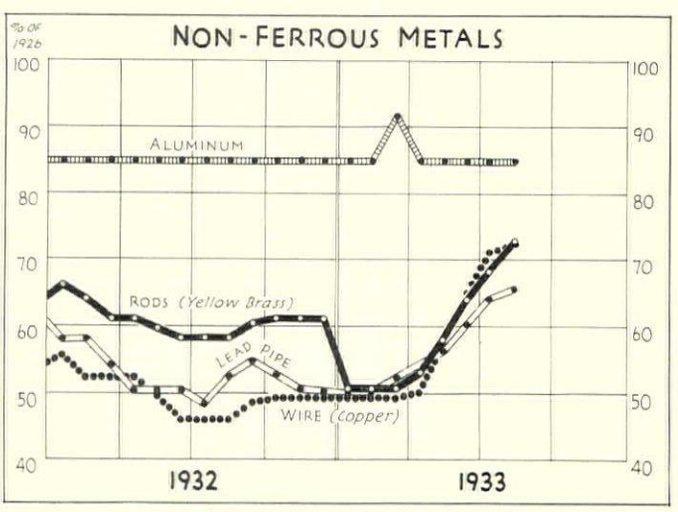


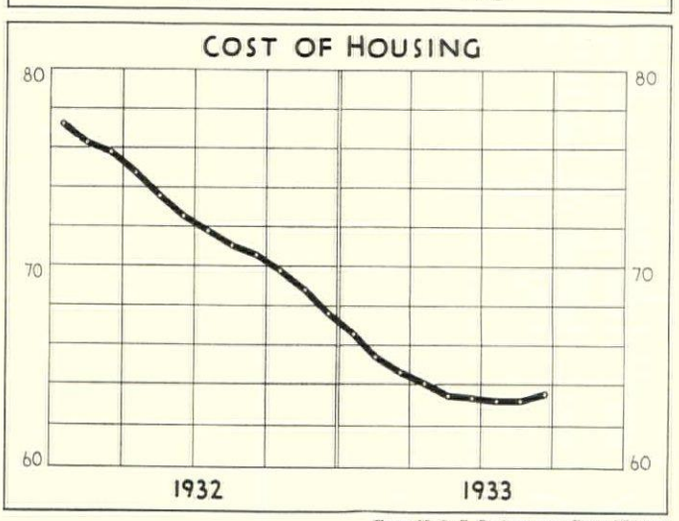












From N. I. C. B. figures on Cost of Living

TICKER TALK

One and All:

There was a BIG ANNOUNCEMENT coming from Washington. Everybody knew there was, and it was due soon. So toward the end of the week when President Roosevelt called in the newsmen and told them he had exchanged letters with President Michail Ivanovitch Kalinin of the Standing Committee of the Union Central Committee of the Union of Socialist Soviet Republics, the Scripps-Howard papers boomed their bass-est drums but Wall Street found it pretty squirrelly. It was not until after the market had relapsed to the levels of last May, until after rebellion threatened to scorch the prairie States, that the real announcement came. When it did, it was BIG.

There was no doubt about that. But there was some confusion about what the plan to purchase gold above the world market really meant. "Out of the ten most important bankers and economists in Wall Street who were asked to comment on the plan," the New York *Times* soberly reported, "only two could find any favorable aspects in the proposal, and these two confessed the gravest doubts."

One thing was clear, however. Having whipped up his right horse will the scheme to convert Fourth Liberties, President Roosevelt simply had to give his left nag a good clout. Senator Elmer ("Canute") Thomas had gone to the White House filled with big thoughts and little words. And then suddenly all his Inflation talk ceased. He did not even respond to cries of "Where's Elmer?" And it was rumored that the Inflationist had agreed to keep quiet until December 1. But there were alarming signs that business was reverting to fundamental economic laws. Grain prices, for instance, were beginning once more to reflect over-production.

✚ The slump in the grain market was distressing to more than President Roosevelt, Senator Thomas and Milo Reno. Arthur Cutten, who was in a fair way to a comeback, was one of those reputedly tripped. As most big grain houses do, Jackson Bros., Boesel & Co. was understood to have extended Cutten a credit to operate in wheat and corn. Everything was jake as long as Senior Partner Arthur Jackson was alive. But he died in the middle of last month's slump. The firm asked for margin, Cutten refused to put and the account was closed out, ran the story. In Chicago Mr. Cutten sits behind a glass door which bears the name: "Chicago Perforating Co." He is reported to own no wheat or corn today.

✚ And if stories were true smart young Erret Lobbam Cord came a cropper, too. Arch-inflationist like his good friend and mentor, Frank Vanderlip, he and his friends started to pick up wheat in the fifties. As it went up, they bought more. For a time their winnings were colossal. They were also reported to have bought rye, corn and barley. Erret Cord was sold on inflation all right.

But the right Roosevelt horse perked up and the left lay down and Wall Street had Mr. Cord a young but broken man. Rumors flew thicker than a flock of teal. There was some evidence of selling in Auburn and Aviation Corp. and Mr. Cord had apparently closed out his grain accounts, but there was very little evidence that Erret Lobban Cord did not still have four strings to his fiddle.

✚ One man who would not bet an erg on either of the horses President Roosevelt is now endeavoring to ride is Howard Scott, high priest of Technocracy. Howard Scott was a better tavern politician than a high priest, but he is at least employed. His employer is the brokerage house of Shields & Co. where he functions as a sort of roving economist.

✚ Archie Andrews' titanic scheme for merging all independent automobile companies (for which with becoming anonymity Longan Short lays claim to a scoop) is still nebulous. But not Archie Andrews' new lighter, Elektrolite. There is no limit to what Mr. Andrews predicts for this little contraption which glows red-hot when you remove the cap. He is sure he will sell as many Elektrolites as all other makes combined — as many as have been sold since a one-armed *poilu* invented a *briquet* during the war. When you murmur politely that the gift season is just beginning, he explodes: "And there are 120,000,000 birthdays a year — give me 5 per cent of them and I'll make $10,000,000." He and his associate, Edgar Detwiller, are a great combination. Mr. Detwiller is an earnest young promoter who sells by conviction. Mr. Andrews has sold enough things to have become affable about it. "We're selling these lighters to the smartest store buyers in the U. S. — not suckers," he will tell you. Other Andrewisms:

"I will probably get a few million out of Pirnie, Simons suit against the Governor of the Stock Exchange, but nothing compared to what we would have made if they had not barged into it. They stuck their neck out just a little too far, so I grabbed it."

"I'm no angel, but these directors who short their own stock — why, I sold out every stock I owned before the Crash, but I kept every share of those in which I was connected with the management. That little gesture cost me $75,000,000."

✚ One day President Richard Whitney of the New York Stock Exchange emerged from the White House last month with this statement: "I have nothing to say. You know when I say I have nothing to say I am not going to say anything." Which pretty well sums up the reason why the Big Board has such a bad press. Few days before, however, the Exchange did say something — something it never had mentioned before. It called attention to a discrepancy existing in Pierce Arrow common and preferred, both exchangeable into a new common. This was not actually advising that the price of a listed stock was too high or too low, but it set a precedent. And precedents are serious things with Governors.

The New York *Herald-Tribune* last month led off an article on the Exchange efforts for reform with, "The policy of the New York Stock Exchange, originally inaugurated in the 80's, of obtaining clearer and more accurate reports of corporations . . . advanced another step yesterday." A rival financial editor opined: "All the inching of the last 50 years would not amount to one full step."

Between Sales: A Boston friend of a director of the Empire State Building has it straight that the board, including Al Smith, sat in solemn session all one autumn afternoon seriously debating whether or not to raze their mighty tower. . . . Al Smith and Bernie Baruch have developed an exchange of gestures — which they exchange more often than you would like to think about. One moves his flat hand vertically, the other horizontally — no matter which way you slice it, it is always baloney. . . . Sylvester Z. Poli, one-time Greek push-cart peddler who got a start as an orchestra musician, built up a chain of cinema palaces, sold out to William Fox for $20,000,000 at the height of the boom, and married off his daughter to an Italian nobleman under the bleary eyes of the Yale football team as ushers and the women's Olympic swimming team as bridesmaids, in a wedding that brought all traffic in New Haven to a standstill for three hours, is now quietly repurchasing all his theaters dirt cheap. . . . They are building a golf course near Moscow. Before the revolution they spent their time hunting and drinking or both. After the revolution it ranked with polo and *auld lang syne*. Now the Americans are coming. . . . Prettiest show of the month was the President forced to squirm out of the provisions of the Securities Act of 1933. The State Department found the idea of a Government protective committee for holders of foreign bonds about as helpful as Wall Street found the other provisions. To keep the Government out of the dunning business, a private committee was formed. . . . Mayor Ellenstein of Newark, who has never felt the same way about life since the Exchange abandoned its plans for a New Jersey floor, asked his constituents to pray for the election of LaGuardia as mayor of Manhattan. LaGuardia's attitude toward the local security marts, said Mayor Ellenstein, would almost surely drive them to the haven of Newark. And then, oh, blessed Newark! . . . The troubles of the beer business suggest that either the drinking habits of the U. S. have altered vastly in the last thirteen years or the beer is very bad. Breweries as a whole are operating at only 40 per cent of capacity. The brewers completely misjudged the situation when they bet that most of the beer would be drunk out of bottles. It was in the first month — 85 per cent bottled, 15 per cent draught. Now it is only 40 per cent bottled. The rebirth of the saloon changed all that. From April to October, 1916, 40,000,000 barrels were sold. In the same period of the New Deal, 14,000,000. Then, of course, there is a Depression. . . . "I am authorizing the R.F.C. to buy gold newly mined in the U. S. at prices to be determined from time to time after consultation with the Secretary of the Treasury and the President." But who was consulted? Not mandolin-playing Mr. Woodin but his young aide from Middletown, Conn., Dean Atcheson, the Bishop's boy. Just what does Mr. Woodin really do? . . . Genial Al Wiggin gave some good pointers on how to retire rich. Also on Mr. Wiggin's Chase National Cabbage Patch, which he cultivated so long and not so successfully. But Head Gardner Wiggin decided that with the price of cabbage what it was, he might as well stop drawing the $100,000 annual honorium. . . . Paul Hollister, Macy's bright young advertising man, was asked to suggest some copy for the NRA's Now-is-the-time-to-buy campaign (what became of it?). He finally evolved this terrifying stopper: GENERAL JOHNSON IS COMING TO DINNER!

How was your dinner?

Longan Short

REPEAL'S BUILDING

boom is yet to start. But hotels indicate what they may spend.

MOST perplexed persons in the land last month were the hotel men of the 20 States in which spirits may soon again be lawfully debottled. In these regions a sniff of profits in the air has grown to a strong sweet smell. Liquor begins to spell hope for a notoriously defunct business. The magazine *Hotel Management* last month got out an excited bulletin which cried: "Hotels went through hell in 1929–30–31–32. The great majority went through receivership, bankruptcy or reorganization. Today most of them have a financial status that permits a profit on a much reduced scale of business. Repeal very definitely will permit them to show substantial profits." The bulletin reported the post-repeal intentions of 350 hotel managers. Seventeen per cent of these said they would need air conditioning, 58 per cent said they would install public bars, 66 per cent needed service bars, 88 per cent predicted the return to popularity of the formal dining room. "Many a plan is hatching for $10,000 bars," sang the report. "Restaurants which did not anticipate quick repeal and which put in junk bars when beer was first permitted will throw them out. . . . Yes sir, formal dining rooms are being spruced up, convention halls and ballrooms rejuvenated." The average amount to be spent for bars and other equipage, as estimated by the hotel managers themselves, was $4,190.

But few hotels were divesting themselves of this $4,190 last month, although repeal was apparently but a few weeks off. For on December sixth or any other day when Prohibition comes to an end it will be a case of one law giving way to 48. When the Eighteenth Amendment is finally deleted from the Constitution, complete repeal is sure in 20 States. But in each of these there will be "control" and it is in the formulation of the control laws that the hotel owners find their profits at stake.

California and Montana have already decided the question by decreeing that distilled liquor can be sold only in original packages and cannot be consumed on the premises where sold. In California the system for State dispensation was quietly voted in along with the repeal of the Wright Act, California's baby Volstead law. Most members of the California Hotel Men's Association, which met at Monterey early last month, were confounded to learn that the measure which they had supported as a step into wetness had been thus emasculated. If conjecture is right, most midwestern States will pass laws like California's and Montana's. Except in Illinois, sentiment favors sale of hard liquors in State stores only. The Illinois Commission on Liquor Control Legislation is at work on a model law of which more leniency is expected.

Pleasing to most hotel men is the chant of the Rockefeller study which is shaping opinion in the East. "In some States [the public] will undoubtedly demand the sale of all kinds of alcoholic beverages by the glass in hotels and restaurants," it concedes. "This will be true especially in large cities where a proportionately greater number of residents take their meals outside their homes. Similarly the large transient populations in our cities creates a special demand for spiritous drinks by the glass. Many hotel guests, if denied a cocktail with their meals, will buy a whole bottle of spirits for consumption in their rooms. . . . We cannot blind our eyes to the popularity of cocktails in America." The Rockefeller report proposes that hotels and restaurants should occupy an agency relationship to a State Alcohol Control Authority, which would regulate their profits.

In New York, citadel of the speakeasy, hotel owners were perplexed as they are everywhere, but most of them thought no law would prohibit public drinking and they quietly went ahead with plans for new bars. Architects and mural painters who worked on tentative sketches for tap rooms found the problem required a new approach. In a newspaper story headlined "REPEAL WORRIES BARROOM ARTISTS," Architect Francis Keally, who has been designing a drinking room for a large mid-town hotel, said: "While our original plans included a 47-ft. bar and two large murals, these features were eliminated when a careful study proved to my satisfaction that the introduction of the intimate features developed by the speakeasy, through the necessity of giving small space unusual treatment, would best suit the size and construction of the grill room. Consequently the plans now being executed call for the elimination of the long bar and the installation of a small semicircular or service bar."

First actual sparring between hotels and liquor controllists occurred last month in Boston, where Manager Emile F. Coulon of the Hotel Westminster and Mrs. Robert W. Lovett, State chairman of the Women's Organization for Prohibition Reform and one-time Hoover campaigner, got into argument over a bill proposed by Boston hotel men.

"Hotel men in general will welcome the end of Prohibition," declared Manager Coulon. "We have been paying huge taxes and taking it on the chin for the past 14 years while operators of speakeasies who paid little or no taxes flourished and grew wealthy. . . . The tavern idea for retailing sales of liquor by the drink seems to meet the situation."

"I don't care what they call it, whether it is a tavern or a rest room," retaliated Reformer Lovett, "it is a saloon, and it will meet the vigorous opposition of women."

Shrugged Manager Coulon: "I would not be opposed to a return of the saloon. . . ."

NEW EXEMPTIONS

for mortgages are granted by the Federal Trade Commission.

IN JULY the Federal Trade Commission provided certain exemptions from registration for real estate mortgages (THE ARCHITECTURAL FORUM, August). Both the Mortgage Bankers Association and the National Association of Real Estate Boards protested that these exemptions were still too restrictive. This month the Commission repealed its July ruling, issued a broad new set of exemptions for all securities. An outline of the new ruling follows:

1. Notes and bonds comprising an issue the aggregate amount of which does not exceed $15,000 which are directly secured by first mortgage or first deed of trust on a piece of real estate used as the issuer's home.

2. Securities of any character comprising an issue the aggregate amount of which does not exceed $100,000, subject to the following prescribed conditions:

(a) That the issue shall not be sold otherwise than for cash.

(b) That no other securities shall have been issued by the same issuer in excess of $100,000, including the issue now to be offered, within the year immediately preceding the issue.

(c) That no other securities of the same class shall have been issued within the year immediately preceding for any other consideration than cash.

(d) That the commissions charged in connection with the distribution of the issue shall not exceed 10 per cent of the offering price.

(e) That the issue, if bonds, shall not be divided into units less than $500, and if stocks, into units less than $100, and if any other type of security, into units less than $500.

(f) That if the issue consists of notes or bonds secured by first mortgage on real estate, the issue will also be exempt even if divided into smaller units than $500, provided that a prospectus containing detailed information be furnished to the purchaser.*

3. The third class of securities exempt by this regulation comprises issues which are exchanged for other outstanding securities, including in such terms extensions or renewals of outstanding obligations. These issues are exempted when the par value of the securities to be exchanged does not exceed $100,000. A prospectus containing a brief summary of the terms upon which the exchange is to be effected is to be furnished to each person to whom securities are sought to be exchanged for a new security.

*This information includes the amount of brokerage and other charges; assessed value; aggregate taxes assessed; appraisal; names of persons who examined title; rights of the security holder upon default; amount and character of insurance outstanding; construction liens if any; summarized balance sheet of any corporation guaranteeing the security.

NEW ROCHELLE

dramatizes the participation of land owners in an improvement.

NOT all cities have city plans and not all city plans are as smartly engineered as is that of New Rochelle, N. Y. It is well known that a city plan engineer must figure late and long with the tax assessor, rare when the planner takes time or trouble to explain to the individual taxpayer just why he should not grumble when asked to help finance a public improvement. Such a rarity is New Rochelle's Paul A. Bankson, who declares that if municipalities, when making use of special assessments to defray the cost of public improvements, would present to interested landowners a visualization of their individual participation of expense, the authorities would readily know if the project were popular.

By what he calls "cubing a special assessment" Planner Bankson dramatizes the tax participation situation for New Rochelle property owners by showing them models such as the one reproduced on this page. In this instance North Avenue (running left to right in the design) was widened and extended at a cost of $2,000,000 and abutting or adjoining property owners were assessed for 50 per cent of the cost. The model is built up from a plat map, the blocks representing land values and not buildings. The upper, shaded portions of the blocks represent the extent of the special assessment on each property and show how the tax decreases in ratio to the distance of the property from the area improved.

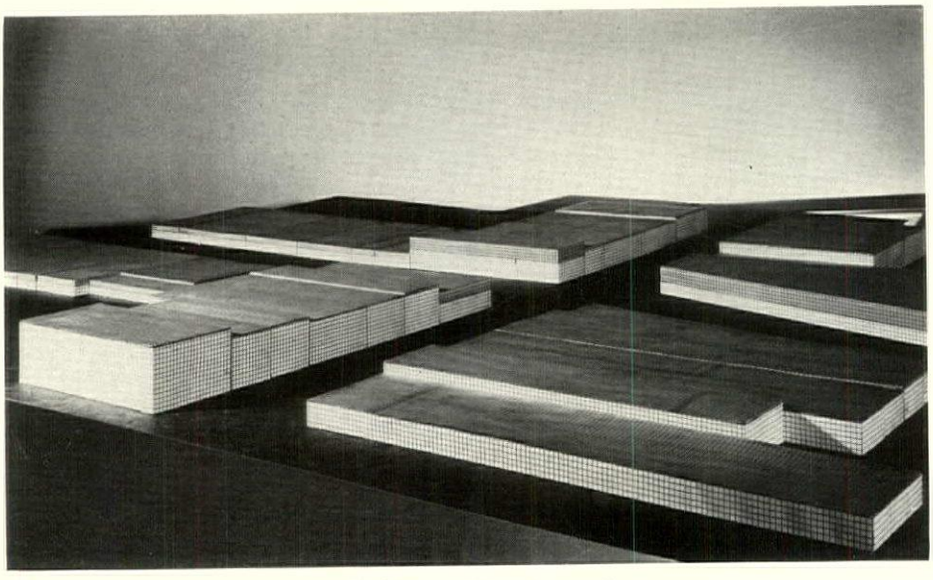
These visible values are built of two-foot cubes. Each cube is given a value of $8, consistent with its contents, eight cubic feet. The blocks would go to such height that they would quickly topple and fall in a like model for Manhattan. But not so if the modeler arbitrarily gave them a higher value.

"The lower tier of blocks or boxes expresses the assessed land values and the upper tier expresses the special levy," explains the scheme's inventor. "When arranged in order the effect is a bird's-eye view of values, levies and elements of consideration. Fallacies in the method of distribution are readily discernible in such a presentation. The portrayal tends also to allay fears of discrimination.

"The child's building block will serve to illustrate. We must assume that each block is two feet in each dimension. For a 30 x 100 foot lot arrange 50 rows of blocks, fifteen to a row. This arrangement contains 750 blocks. Since each block is worth $8, all the blocks are worth $8 times 750 or $6,000. If the lot is valued at say $30,000, then five successive layers must be built up to represent that amount of money. Pictorially, the set-up shows frontage, depth and value."

Special assessment areas include such properties as may be deemed in varying degrees to benefit by the specific improvement in a locality. There is any amount of complicated deeming to be done in distributing a special tax such as the one imposed here, the planning engineer points out. "The cost of the land takings in any one zone may be many times that in another zone so that a distribution of cost over an entire area tends to inequality. Thus the tentative assessment derived from the cost within the block or zone divided by the total assessed land valuation of the same district is the tentative rate for each parcel. Multiplying the assessed land value of each parcel by this rate determines its assessable share.

Planner Bankson will not say that his method for cubing assessments provides a clue to economic height for buildings. But in it can be seen opportunities for studying out proper frontage development, for exposing in striking manner cases of ridiculous assessments on land, for airing many other elements of consideration.



An improvement assessment cubed by a city plan engineer

GERMANY SUBSIDIZES

repair work. How financing is aided by interest compensation.

GERMANY'S recent 500,000,000 mark subsidy plan to encourage expenditures on home repairing was broadened last month with the introduction of interest compensation certificates. For ordinary repairs under the original plan house owners could obtain a 20 per cent grant. Now, in addition, they receive six certificates, each of which is equal to 4 per cent of the remaining 80 per cent of the work's cost. These certificates are redeemable by the Government annually until 1939. To avoid giving them the semblance of currency inflation, it was ruled that the certificates are not attachable and are transferable only as a unit — that is, with all unredeemed coupons still attached.

The subsidy plan also provides for grants up to 50 per cent of the cost for work involving the division of large apartments or reconstruction work serving the civil air defense program's purposes. Interest compensation certificates will also be available on the same basis for this type of work and expenses serving the air defense will be deductible in determining income and corporation taxes.

EARNINGS

THIRD quarter statements of companies with a stake in the building industry generally showed smart gains in earnings over the same three months of 1932 but not sufficient to wipe out the nine months' difference. Typical third quarter reports follow:

(000's omitted)

D = deficit

	1933	1932
Air Reduction	1,037	425
American Rolling Mill	347	860D
Certain-Teed Products	2	367D
Anaconda Wire & Cable	147	372D
Truscon Steel	174D	60D
Atlas Plywood	46	56D
General Cable	304D	695D
Otis Elevator	230D	358
Yale & Towne	27	199D
Longbell Lumber	470D	1,018D
Minneapolis-Honeywell	385	167
Johns-Manville	444	277D
General Electric	2,864	2,716
International Cement	30	519D
Westinghouse	1,513D	2,715D
Allegheny Steel	152	288D
Chicago Pneumatic Tool	1	256D
Formica Insulation	26	6D
Allis Chalmers	381D	543D

THE

ARCHITECTURAL

FORUM

VOLUME LIX DECEMBER, 1933 NUMBER SIX

THE FIELD BUILDING

CHICAGO, ILLINOIS

GRAHAM, ANDERSON, PROBST & WHITE, ARCHITECTS

GEORGE A. FULLER COMPANY, CONTRACTORS

BY ALFRED SHAW

As ONE of the largest buildings that Chicago has ever built, as well as the fact that it was a scheme planned over a long period which extended into the so-called depression, the Field Building has stood alone in the eyes of those who watch the commercial development of Chicago — particularly in the field of office buildings. The property bounded by Clark, Adams and LaSalle Streets and Marble Court has been held by the Estate of Marshall Field for some years with their plan always before them of building on it the most complete and most modern office building in Chicago.

The problem was attacked in its essentials and many schemes were studied, all intended to produce the best space layout and the most efficient use of the property. Models indicating the exterior form of the building in mass were made simultaneously. When the final scheme was approved, it was developed in great detail and submitted to a most critical examination by a selected group of office building experts, at which time certain changes were made and plans were completed.

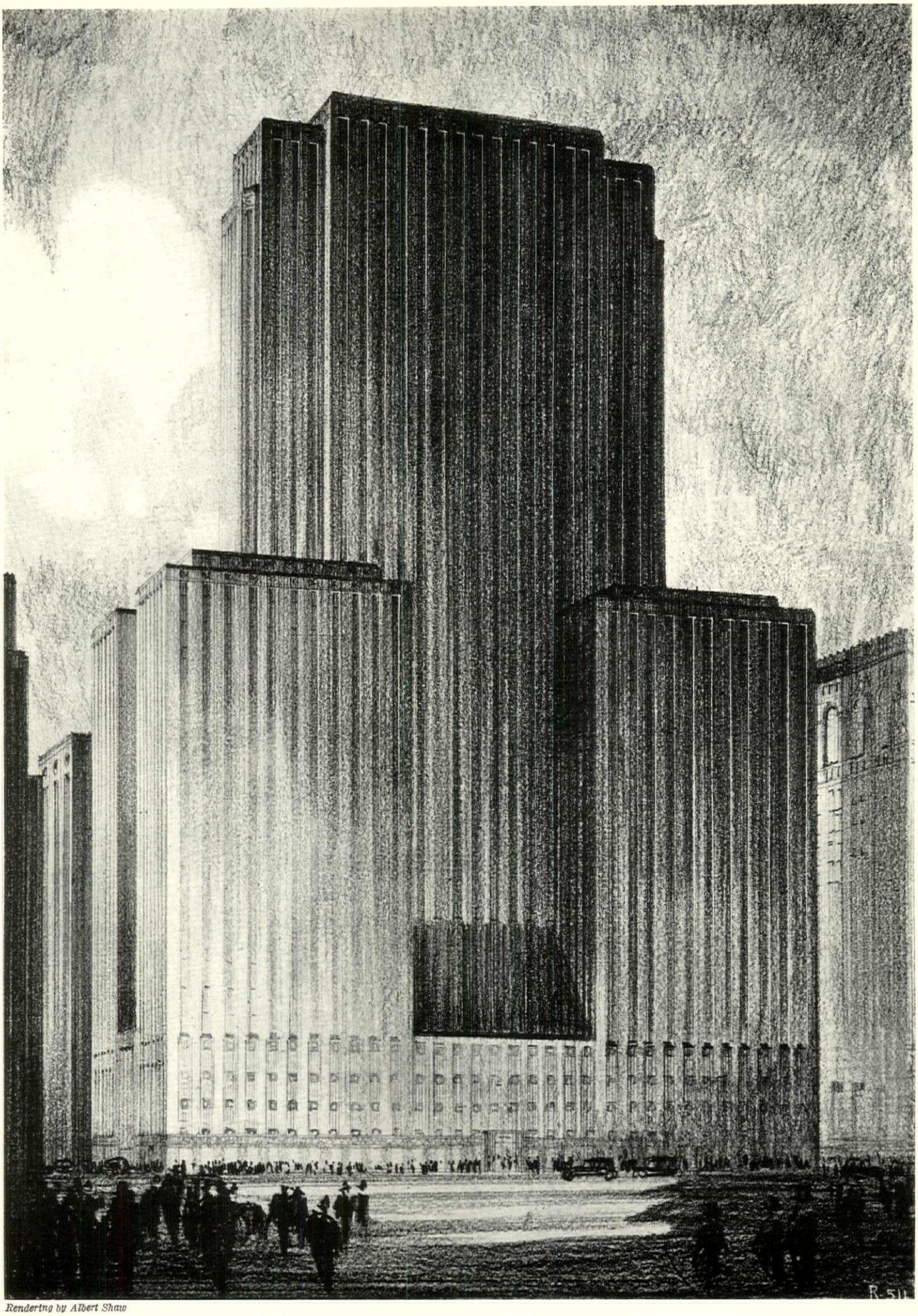
The analysis of the project as represented by the preliminary sketches was started in June, 1928, and in the two years following some forty sets of sketch drawings and financial prospectuses were prepared. Final set of finished sketches was approved November, 1930, and working drawings were issued on June 8, 1931. It is worthy of note that the sketch drawings and analysis consumed a much longer period of study than the actual production of the working drawings.

The large area occupied by the building, as well as the necessity of taking care of tenants in buildings that were to be wrecked made it necessary to construct the building in three sections. Contract was awarded to George A. Fuller Company July 15, 1931, and wrecking of buildings occupying site of first section began September 17, 1931.

In the development of down-town Chicago there has hardly been a time when the wrecking of a building attracted so much attention as did that of the Home Insurance Building, the masterpiece of structural vision of which William Le Baron Jenney was the architect, and which has been much publicized as the father of the sky-scraper. In the lobby of the first section of the Field Building the significance of this building has been aptly emphasized with a bronze tablet.

The first section of the Field Building was completed in June, 1932; the second section was commenced in June, 1932, and completed in May, 1933; the third section, now under construction, will be completed in the spring of 1934.

The exterior design of the building has been studied with a view of making good proportion and interesting form without the use of traditional classic architectural detail. The design of the exterior, which is chiefly limestone, is accomplished by straight lines and set-backs, the



Rendering by Albert Shaw

fenestration being arranged with aluminum spandrels to produce a series of vertical lines. In the lower stories these vertical lines run into window treatments which utilize white metal and black granite which ties in with the black granite base. The entire color scheme of the exterior is gray, black and silver. The general effectiveness of the silhouette eliminates detail and ornament, partly because of its ineffectiveness from any distance and partly for reasons of maintenance and disintegration.

Great study and consideration have been given to the architectural treatment of the interior. The main arcades in the first, second and basement floors are to be formed by a series of piers in a light colored marble and, as on the exterior, a quiet effective color scheme of white, black and brown is used to tie in with the white metal treatment of the shop fronts, elevator doors, and fittings in general.

Complementing this treatment of the arcade itself the owners and architects cooperated in laying down a plan which would require all the tenants to develop their shops and show windows in combinations of vermilion, black, silver and white. This repetition should give a unity which is usually absent in commercial buildings.

The significant feature of the street level plan is the long arcade (305 ft.) running from Clark to LaSalle Street giving quick and obvious access to the four banks of elevators which serve the main block of the building up to the twenty-fifth floor, and one central bank which serves the tower. This arcade, two stories high, is connected with Adams Street by a smaller arcade perpendicular to it and is further enhanced by a second story arcade running parallel and adjacent to it on its south side. Along the arcade a selected group of shops will be placed. In the basement will be a barber shop, restaurant, gymnasium and safe deposit vaults, developed similarly to the shops on the first floor.

The total rentable area will be: shops, 82,358 sq. ft.; offices, 884,700 sq. ft.; on the typical lower stories there will be 700,193 sq. ft., approximately 31,000 sq. ft. per floor; on the typical tower stories there will be 185,117 sq. ft., approximately 10,500 sq. ft. per floor; the cubic contents are approximately 20,500 cu. ft.

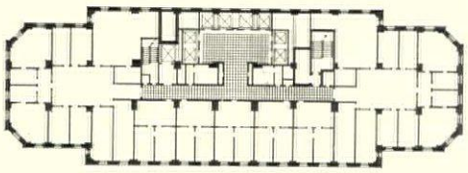
Among the unusual developments in this building are the enclosed radiator units in place of the ugly, dirt-collecting radiator. These units are flush with the wall in an attractive louvered enclosure, grained to match the adjoining woodwork. Another unusual feature is the fenestration; the tried and never-failing double-hung window was the type selected, and aluminum frames and sash, built from carefully fitted experimental models, are handsome and efficient. The metered water coolers developed especially for this building by the inventor, Ira H. Jewell, and the architects are described separately in the discussion of mechanical features.

In the central two-story arcade the problem not only of illuminated signs but of general lighting was difficult. It was complicated by the second story balcony along one side which restricted the use of a freely thrown indirect system of lighting.

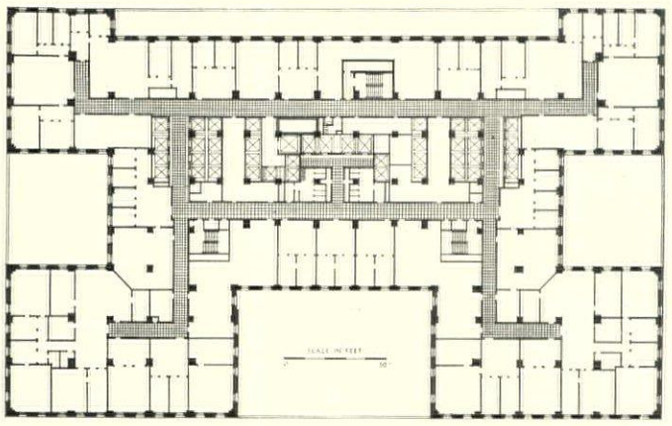
An indirect bracket fixture was developed which is very successful in the soft and even distribution of light effected by reflection from the ceiling, and with an intentional spill on the pilasters. The fixtures are louvered to obviate the possibility of seeing into the light source from the balcony. Within each fixture is a corrugated, chromium plated reflector. There are 36 fixtures with a capacity of 600 watts each, maximum. In the sides there have been provided some very small openings which give a certain lightness to the bulk of the fixture, thus preventing it from looking like a container, and at the same time explaining its purposes a little better than if it were a totally indirect fixture.

A successful decorative effect was developed in the signs. To match the metal work throughout the arcade the sign frames, as well as the fixtures, are built of white bronze and the letters are etched in white glass with a metal background electroplated on the glass which naturally shows dark in contrast when the signs are illuminated. The sign boxes are located above the show windows and shop entrances, and above them and set back seven inches are handsomely matched Loredo Chiaro marble panels in tans and grays. The same lamps which illuminate the sign letters are permitted to give a spill of light vertically upward enhancing the marble.

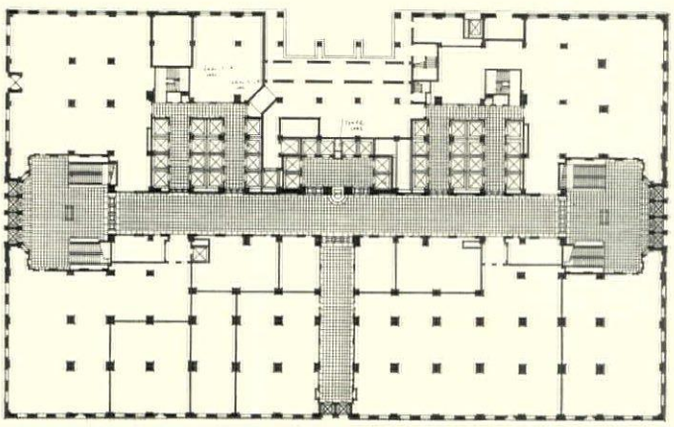
The architects sense with pride their responsibility as architects of this structure, their collaboration with the trustees, Mr. Marshall Field, Mr. George Richardson and



TOWER FLOOR



TYPICAL FLOOR



GROUND FLOOR

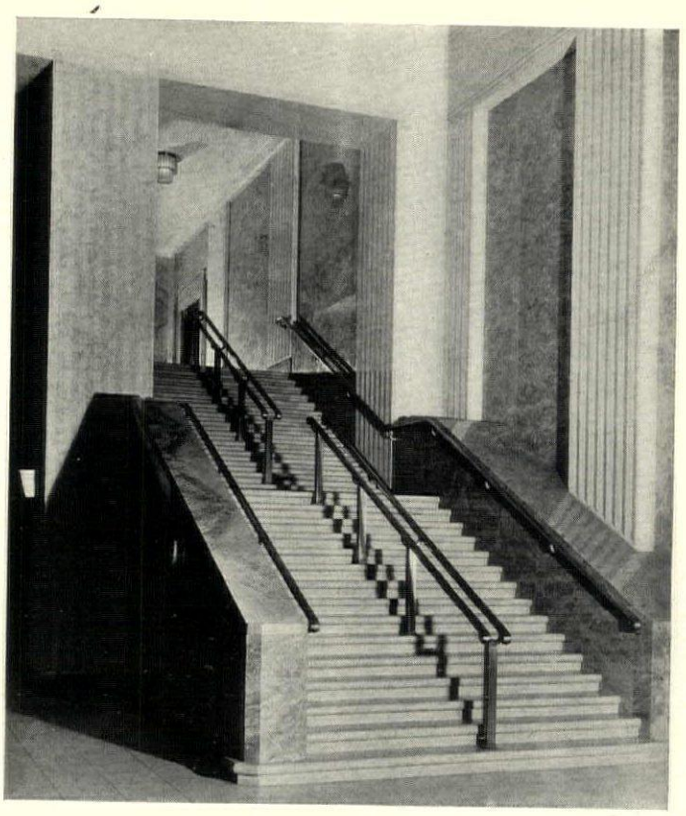
When Section No. 3 is completed next spring, the Field Building will assume the majestic mass suggested in the perspective opposite



Hedrich-Blessing



Part of the two-story arcade lined with shops on both sides. To preserve unity, treatment of shops is limited to a color scheme of white bronze, vermilion, black and white. Lettering over the shops is etched in glass and framed in white bronze to harmonize with other trim



Marble staircase leading to second floor shops of the arcade. Fluted marble pilasters repeat the vertical motif of the exterior, and the coloring of the marble walls is blended with the terrazzo mosaic floor. All trim, including stair rails, is white bronze, as are the bracket fixtures

the officials of the Continental Illinois Bank, as well as the Technical Staff of the Estate of Marshall Field.

We believe that this building, which is the labor of many men, represents the finest type of office building construction known today, and efforts have been concentrated around our ambition to achieve an outstanding structure for business purposes which combines beauty, utility and economic soundness.

MECHANICAL EQUIPMENT

BY G. W. HUBBARD

THAT portion of the mechanical equipment which serves the building as a whole, except fans for ventilation, is placed in the third basement. Here are located the boilers with their auxiliary equipment; the pumps which supply domestic water used throughout the building; the hot water heaters which heat a portion of the water supply; the pumps for the fire protection system; the cooling equipment and pumps for supplying the drinking fountains; the vacuum cleaning machines, the refrigerating and circulating equipment for the air cooling system. Most of the fresh air supply fans are placed in the second basement, with the exhaust fans in the upper stories of the building. That portion of the mechanical equipment which serves only a small section, such as the fans for certain areas, is placed as near as practicable to the sections served.

The boilers are of the water tube type: two — each of 500 hp. rated capacity — are equipped with stokers and are intended for use during the winter months to supply the steam required for the heating and ventilating systems, the hot water supply for kitchens and for other services as required. Two other boilers — each of 250 hp. rated capacity — are equipped with oil burners and are intended for use in the summer months to supply the steam required for the hot water supply and for other services. All of the boiler units are designed so that they may be operated at 200 per cent of rating so that there is ample capacity to meet all needs. The water supply to boilers is by three boiler feed pumps with automatic control.

Main entrance lobby, as impressive in scale as the exterior. The walls and pilasters are light marble and the floor is of terrazzo

The heating system is of the two-pipe vacuum type. The radiators and all pipes are concealed throughout the entire portion of the building frequented by the public. The temperature in the rooms is maintained at the desired point by means of an automatic valve placed on the steam supply at each radiator.

On account of the height of the building and consequent pressure involved it was necessary to divide the domestic water supply system into two independent zones — one for the main portion of the building and one for the tower, each system having its own pumps, storage tanks, and other equipment and being complete in itself. The sub-



Hedrich-Blessing



Hedrich-Blessing Photos

Second floor reception room and elevator lobby, paneled from floor to ceiling in walnut. Carpet and furniture are light brown in color, and all trim is white metal



Street floor lobby and public space. The terrazzo flooring is light brown in color. Walls, furniture and bank screen are dark walnut, and white metal is used for trim

division of the domestic supply applies to both the hot and cold water systems.

Plumbing fixtures throughout are of the most modern type, selected to conform to the high character of this building. The lavatories are of china; where in offices they are placed in combination lavatory and wardrobe cabinets. The water closets are of the wall hanging type, equipped with concealed flush valves. The urinals are equipped with timeostatic devices for automatic flushing. The slop sinks, in general, are set with the top of the fixture about 9 in. above the finished floor, the body of the fixture being set into the floor construction.

The fire protective system, like the domestic water supply system, is divided into two zones: one for the sprinkler system in the basements and the hose connections in the main portion of the building, the other for the hose outlets in the tower. The fire pump for the former takes its supply directly from the city mains and discharges into the mains on the lower zone; the fire pump for the latter takes its supply from the discharge of the main building fire pump and discharges into the mains of the upper zone.

The system of drinking water has been made a feature of the building. This, too, is divided into two zones for the main portion of building and tower, respectively; water risers are installed at every other column throughout the tenant areas, through which distilled, remineralized, aerated and cooled drinking water is constantly circulated to attractively designed fountains. Each fountain is metered individually so that tenant pays according to the amount of water consumed.

The vacuum cleaning system has been so arranged with an extensive system of risers that it is not necessary for a janitor to enter any tenant's quarters when cleaning the corridors, nor to enter the quarters of one tenant when cleaning the space occupied by any other tenant.

Another special feature in this building is the air cooling system construction, which has demonstrated its value in restaurants, theaters and other classes of tenancy, but has not been used so extensively in buildings of this type. Here it is used for cooling the first basement, first, second, third and fourth stories, supplying cooled air during the hot summer days and, as a portion of the ventilating system, to supply warmed air during the cold winter days.

Mechanical ventilation is provided in all of the basements, the first, second, third and fourth stories, and in all of the inside rooms in the stories above. Special ventilation is also provided in the quarters of the Attic Club, in the toilet rooms and other places where required.

The elevators are of the electric traction type. For passenger service they are divided into five groups of eight elevators each, centrally located in the building; the tower elevators occupy the center, flanked on each side by a group of express elevators, while the local elevators occupy the extreme east and west positions. These elevators are of the highest type and are provided with automatic landing, interlocks and other safety features. The speeds at which the elevators in the different groups travel vary with the service; that for local elevators, where the distance between stops is short, being six hundred; for express elevators, eight hundred, and for tower elevators, one thousand feet per minute.

All three photographs are of the Field, Glore & Co. brokerage office. Opposite is a corner of the salesmen's office finished in walnut

THE ELECTRICAL SYSTEM

OF THE FIELD BUILDING, CHICAGO

BY C. A. CARPENTER, ELECTRICAL ENGINEER

THE new Field Building is the only structure in Chicago provided with an interior electrical distribution on the so-called "network system." The scheme was adopted because of the height of the structure and the magnitude of the electrical load to be served (3500 k.w.). It is considerably more economical from the standpoint of the building owner and of the Commonwealth Edison Company in this case to have an alternating current installation than to distribute direct current as is done in the surrounding district.

Service comes in over four 12,000-volt, three-phase lines, which originate at two power stations and approach the building by two different routes. No high tension switches are provided for these lines anywhere within the building, all provision for disconnecting these feeders being provided at the power station ends. Risers are installed in conduits enclosed in concrete, in a specially constructed high tension shaft. Transformer vaults and low tension switchboards used in connection therewith are provided in the basement, 4th, 24th and 44th stories. Although practically independent of each other on the high tension side, all of the transformers in each vault feed together into a common "network bus" on the low tension side. From this bus connections are made to the low tension switchboards in rooms immediately adjoining the respective vaults. Between each transformer and the network bus will be installed a device known as a network protector. This will function automatically to disconnect its transformer from the bus in event of voltage failure on the primary feeder to which the transformer is connected. This is necessary to prevent reversed flow of power back through the transformer in case of development of a fault in any feeder.

Because of the size of the load to be handled over each switchboard and to facilitate separation of metering of light and power, a separate connection is carried from the network bus, which is in the vault, to each section of the respective switchboard, one section serving the lighting load and the other the power load which is taken from that vault. The lighting sections consist almost entirely of circuit breakers from which extend the feeders to the low tension lighting bus risers. All the risers are connected through the switchboards serving them, making a "network."

The network system is to secure the maximum reliability of service and to permit unforeseen developments of load to be taken care of without additional installation of distribution facilities. In event of the complete shutdown of any vault the adjacent vault or vaults will assume the load which has been dropped.

The lighting risers are of interest as being the first installation employing aluminum channels for the main conductors in a building of this character. The reason for the selection of this material was that, at the time the electrical design of this building was being developed, the aluminum channel scheme worked out to be the most economical of all considered. The channels are 4 in. size, 2.58 pounds per foot and were brought to the building in approximate 60 ft. lengths. These lengths were connected by splice plates bolted to the webs of the abutting channels by a special technique and with excellent workmanship.

Each of the six risers (four in the main building and two in the tower) is in one piece, structurally. By making each riser in one piece it was possible to avoid the use of flexible expansion joints which have been necessary in some designs. All connections between risers and their connecting feeders and the panels which are served from the risers, are made flexible so as not to be strained by movement of the riser. All four members of each riser are enclosed in a single overall enclosure of ¼ in. transite board. A sheet steel enclosure would be unsuitable due to the currents which would be induced in it by the comparative heavy currents flowing in the riser. The enclosures have been designed so as to permit reasonably free upward circulation of air and mechanical exhaust is employed at the top.

A flattened, thin wall, steel tubing known as "ovalduct" is utilized for the supply of ceiling and other outlets in rentable spaces because the requirements of tenant layouts are very frequently unknown at the time of the roughing-in for electrical work.

With the ovalduct scheme, the connections from the cut-out cabinets are brought in standard round conduits to selected points in the tenant areas and at each of these a riser is erected from floor to ceiling. Such riser is provided with an outlet immediately above the base, normally provided with a plug receptacle, but which also may serve as a junction box. Above this outlet, 4 ft. by 6 in. above the floor, is an outlet which is usually utilized for the installation of one or two switches, depending on the wiring layout. From the top of the switch outlet, conduit is carried to a special elbow set immediately below the ceiling in such position that the outstanding leg of the elbow will be above the finished plaster line. From the elbow, ovalduct is extended across the ceiling to the desired outlet locations.

In spite of the higher installed cost of ovalduct as compared with the smaller sizes of round conduit, it has been found that the total expense of the typical outlet arrangement and subsequent revision of the wiring roughing-in, as usually done, is greater than the cost of an ovalduct installation, even including the cost for cutting and patching of plaster. It has an added advantage of intangible value in avoiding all capped outlets. Further, the installation of ovalduct buried in plaster avoids channeling, puncturing or otherwise imparing the structural strength of the floor above.



Red Square by night, and the tower from which the Internationale is chimed at midnight

AN ARCHITECT RECOGNIZES RUSSIA

BY O. KLINE FULMER

ALL who are interested in Russia find that reports change like chameleons according to the background of the reporters. Readers owe it to themselves to know the colors of the observer.

I therefore confess to two reasons for going to Russia aside from the more obvious one that an architect could well afford to leave America during the depression. My first and professional reason for going to the U.S.S.R. was the exceptional opportunity to study housing and city planning in the only country which is in a position to do these on an unrestricted scale. My second purpose was the same feeling of curiosity which has drawn most travelers and journalists — a hope of seeing and understanding "the great experiment." It was for the latter reason that I willingly went as a free lance, expecting to work for roubles, which are negotiable only in Russia. I felt that I could then see conditions from the inside out, and not as a foreigner attempting observations while living with his imported standards of living as a part of an organization transplanted from America to Russia.

When I arrived in Moscow I found many phases of Soviet enterprise at a comparative standstill, including the building industry. The reasons for this became increasingly clear as I became entangled in the details and operation of "the system." The fact that most foreign experts were no longer paid in the exchange of their own country or *veluta* was indicative of the change in the men and materials which Russia could afford. The halcyon days when Le Corbusier, Kahn, the Bauhaus men and others were invited to plan for the Soviet housing were gone. There were still many German experts in Moscow, but even while we were there their number began to diminish as their salaries were paid more and more in roubles. Foreign materials could no longer be imported since credit was already expanded to the limit, and Russia was unable to see immediate relief because her trade balance was becoming increasingly unfavorable.

The time was at hand when Russians were forced to turn their theorizing into practical application. It is an axiom among those who understand Russian psychology that they will sit up all night for theoretical discussions but when morning brings the moment for action they are fast asleep. The preoccupation was no longer whether a city should be of the Corbusier skyscraper type or the one-line city. It became the need of the moment to provide shelter for the vastly overcrowded population.

I feel that I discovered the answer to the chaos which seemed to prevail as I got a more intimate picture of daily life in a Red office. Living and working are so inextricably bound together in the U.S.S.R. that I believe in turning to "anecdotage." I shall not only give an idea of life in Moscow but in so doing will furnish a background which will enable the reader to visualize for himself the circumstances which caused me to leave the Soviet, convinced that at present experts of Western countries have little place there.

I set out to visit various Architectural Trusts in Moscow shortly after my arrival, because I found



Droshky — a high-priced luxury



Food line outside Product Store



Siberian food vendor

Street sweeper

Lugging lumber



House wrecking







All photos by the Author

Left. Vodka victim

A record of daily existence in the land of the Soviets would disclose such scenes as these — the background of the "Great Experiment." Grandiose plans and primitive labor, a fortune in roubles for a droshky ride, hours of waiting in food lines, temporary escape through vodka, these are parts, but not the whole, of life in the U.S.S.R.



Moscow's Planetarium, where for a few roubles, one may learn of evolution as well as the movement of the stars

that if I had no living accommodations when my Intourist Hotel room had expired it would be more than probable I should have to spend my sleeping hours on a park bench. All rooms are controlled by the various Trusts for their employes, and the pressure for shelter is so great in the Capital that even the hotel rooms paid for in *veluta* are always engaged long in advance. In my visits to the offices to which I had access I soon learned that the point to be considered was not what my work would be but whether the particular Trust had an available room where I could eat and sleep. It was not a question of an apartment as most Russians were living four and five to a room, and I was finally reduced to choosing my job with the only Trust which offered me a room for the summer.

This room shortage gives rise to amusing incidents. For example two Trusts may claim the same room. Some friends of ours had papers showing they could claim certain rooms. They moved in and the following day another family turned up with a paper from a rival Trust. It was late in the evening, there were two small children, and their hotel room had been given up. Our friends permitted them to take one room expecting to thrash out the rights in the morning. Neither family could be accommodated elsewhere and since occupation proves possession both families entrenched themselves and refused to budge.

Perhaps the most absurd illustration of the shelter scarcity was that of friends who employed a maid who proved unsatisfactory in a few days. They discharged her but she would not give up her sleeping corner. She took a factory job, and to complicate matters further bore an illegitimate child. But because it was impossible to find her other lodgings she insisted on staying and her rights were upheld.

In our own quarters the absent owner, taking no chances, locked the clothes closet, all cupboards, and even his drawer in the communal kitchen for fear that we should try to continue our residence and he would then point to his belongings as proof of his prior right to possession. These digressions make it clear why I chose my work according to the living quarters offered. (I might add that in spite of this crowding the Russians were tearing down many houses in the congested section for the proposed park spaces, and the new districts as yet are a mere drop in the bucket.)

As I studied the Russian efforts I agreed with most observers that the one greatest handicap is the endless bureaucracy. Standartgorproekt (Standard Government Projects) is an architectural combine entrusted with the building of some of the most important new centers. This Trust, as are all others, is managed by a group of three directors. The Executive Director controls salaries, the Technical determines ability and work, and the Party representative, or Red Director, vetoes or approves their decisions. Each official avoids assuming responsibility for fear of endangering his personal or political security, and the result is an endless passing the buck. Two of the directors are political appointments and rarely understand the work which the Technical Director lays before them. Thus architecture becomes related to politics and not to the building needs of the people.

I well remember at one of the meetings of the staff, one of the German experts had given a detailed explanation of a new layout for Magnitogorsk and asked for questions and opinions from the directors. The Red Director arose and expressed his interest, not in the plan, but in the German steel tape measure the speaker had been using as a pointer, requesting that one be brought to him from Germany.

I found it difficult to work with the various members of the Trust due to officiousness and petty jealousy arising from the inferiority complex inherent in men just risen from the masses. Personal initiative and ambition are suspiciously bourgeois. To be accused of this is fatal. This factor exists in all Russian activity and results in a tremendous handicap to accomplishment. In fact one of the leading Moscow correspondents, although much in sympathy with the Soviet experiment, admitted that due to this situation, 10 per cent efficiency is the very maximum a foreigner can obtain.

Another factor which adds to the bureaucracy of the Trust is the fact that living quarters and food cards are administered by a Trust Quartermaster. I spent the greater part of my first month trying to beg or bribe the amenities of life from him and his conniving assistant. To add to the distractions of room problems and renewal of food cards, the Trust



Housing is a significant part of Russia's rebuilding. Suffering from a severe shortage, plans are many, realities few of such apartment houses as the one above

bank was apt to be empty on pay day, which seemed incongruous as rouble value was based on the capacity of the printing press. When I did receive my salary it was often considerably depleted by taxes of one sort or another, subtracted without my knowledge. Compulsory government loans often consumed an entire month's salary, and one may imagine the morale of the workers where such monetary vagaries threatened the daily food supply. Food cards entitle a worker to make use of his earnings only.

The equipment of the offices is meager and poor in the extreme. In recalling our makeshift drafting rooms, I can think of only one mark of efficiency, that being the closely shaved heads of the draftsmen. Our tracing paper was of the cheap, yellow variety in which a pencil makes a trench; our thumbtacks were of pliable tin and destructive to paper and thumb; T-squares and triangles were made of wood entirely. There were no drafting stools and the work had to be done on small wobbly tables and chairs. Working space and light were limited and constant reorganization of the rooms doubled the confusion. It took three days to a week to get a blueprint. Most of the draftsmen matched the low quality of the materials with their inadequate preparation and lack of practical experience.

Turning to the larger aspects of the difficulties in my office, I found that, at that time, there were only three general building materials to be had: brick, wood and a small supply of reenforced concrete. Yet they wanted me to make working drawings "American style," showing materials I knew they could not obtain. I have seen in one of the Moscow streets men squaring logs with a hand axe because of the lack of mill machinery for cutting rough lumber.

Inadequate transportation was another large factor in the slowness of building. Most plans were made in Moscow but had to be executed thousands of miles away and the means of communication were so slow that much time was lost during erection waiting for orders from the central offices. For example, our Trust in sending a message to Magnitogorsk in Siberia found it necessary to send a man by train to deliver instructions because both telegraph and mail were so unreliable.

I made it a point to wander around the city and inspect the new housing erected under the Soviet. Many of these groups occupy whole sections on the outskirts of the city, such as the Sokolniki or the Dubrovka district. They were striking because of their German inspired modern style. I often found, however, that although the exteriors looked substantial they were little more than modern shells in which plumbing and general mechanical equipment were so poorly installed as to make many of them hardly usable. In our own communal apartment the neighbors kept the bath tub filled with cold water and used it as a refrigerator obliging us to perform our ablutions in the river. Electric wiring was often left exposed in the finished room, and in some buildings the pipes had been put in as an after-thought leaving gaping holes in walls and floor. These are evidences of the fact that the materials did not arrive on time, and that the workmen were unused to modern construction.

If I have seemed to emphasize details in this brief review it is because I feel the real difficulties for Russians lie in their inability to coordinate and administer the details of their experiment. There is something in the mentality of most Russians which would make one of them, if asked to count the cows in a field, count the legs, subtract the number of ears, and divide by two. It is true that some of their inefficiency can be laid to malnutrition, some to the still prevalent backwardness of the people and the vastness of their program. Yet I consider the crux of the situation to be deeper. They seem so dazzled by grandiose schemes and false statistics that they are unable to find simple solutions. A good example of this occurred in our office when a German proposed that log houses be erected to provide shelter for the shivering workers facing a Siberian winter. The wood was easily obtainable, the construction familiar and erection could be completed rapidly. His suggestion was thrown aside as being unworthy of an industrialized country.

I should say the contribution that Russia has made to the world lies in the leaven which a socialized point of view can give to theories. I am sure their theories can be studied and better applied outside of Russia as other nations turn more thought to socialized life. My trip therefore advanced me little in immediate professional experience, but I think I did gain a worthwhile conception of "The Great Experiment."



All photos Hedrich-Blessing

THE CHRYSLER EXHIBITION BUILDING

HOLABIRD & ROOT, ARCHITECTS

A CENTURY of Progress Exposition has ended. Witnessed by 22,300,000 people, who spent $36,000,000 within its gates and $450,000,000 without, it was, as its sponsors boasted it would be, a commercial success.

It was inevitable that some one building should, like Sullivan's Transportation Building at the Fair of '93, be singled out as the finest, the most significant, or the greatest contribution to modern design. Without resorting to a formal poll, it has become increasingly evident that the building for Chrysler Motors, designed by Holabird & Root, is most likely to earn that distinction.

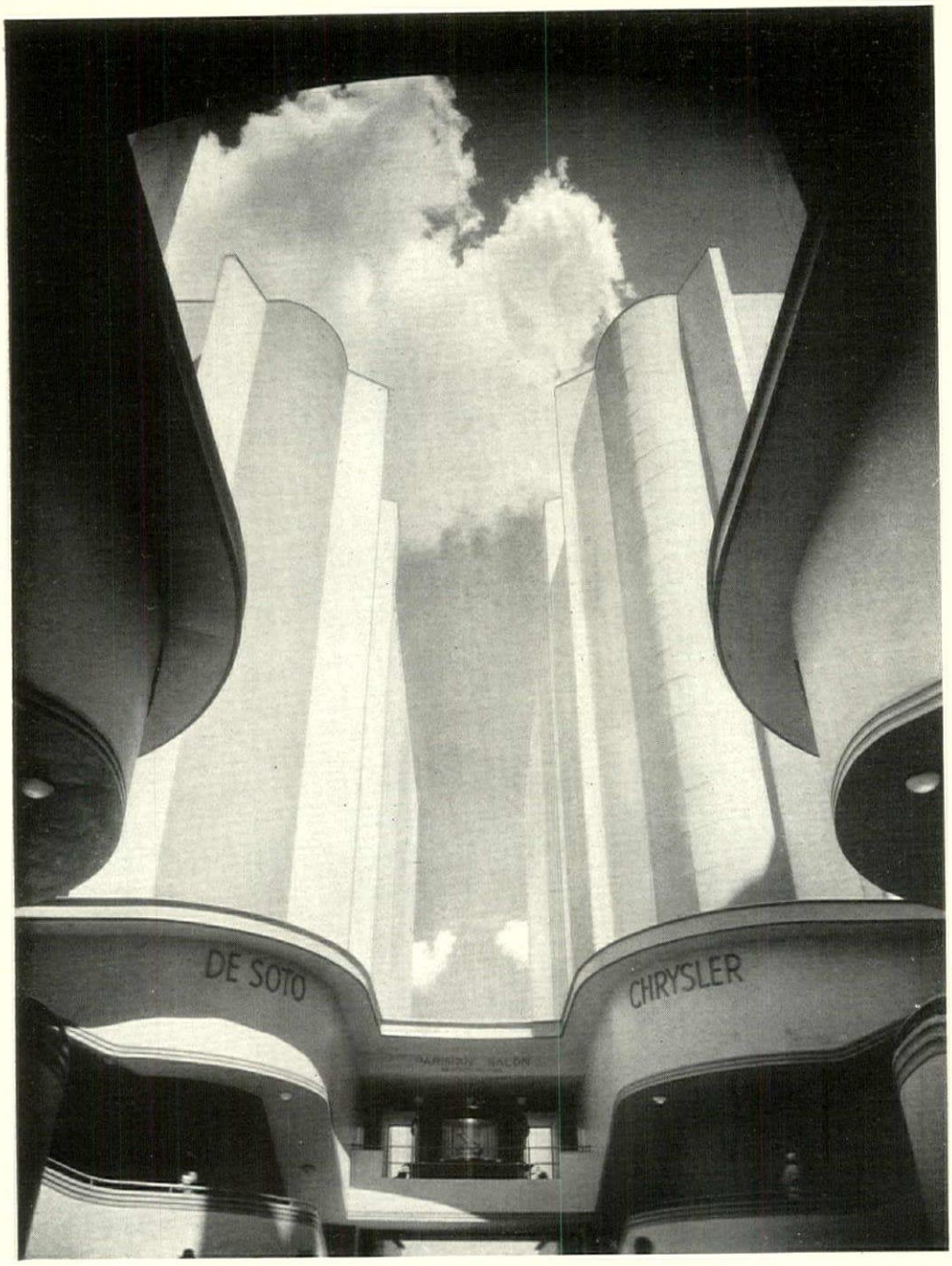
Of it, Royal Cortissoz, art critic for the New York *Herald-Tribune*, said:

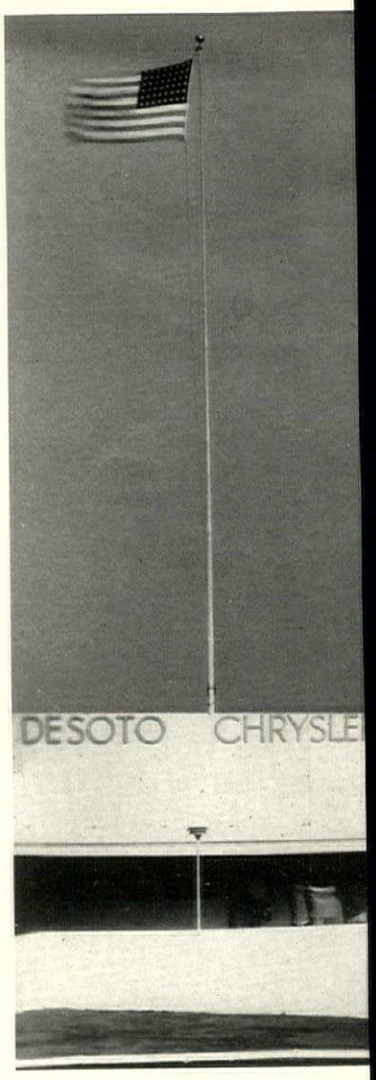
". . . the sole beautiful building at the Fair, that erected for Chrysler Motors. The tall bare walls of this great pavilion, divided as though into two shallow towers, lift their pearly whiteness into the air in a clean-cut, notably serene way and give you something of that sensation which is evoked by architecture in its real sense."

Of it, Paul Cret said:

"The Century of Progress is a magnificent example of what can be achieved in this way (i.e. relying on three dimensional effects) with the utmost simplicity of means as in the Chrysler Exhibition Building of Messrs. Holabird and Root."

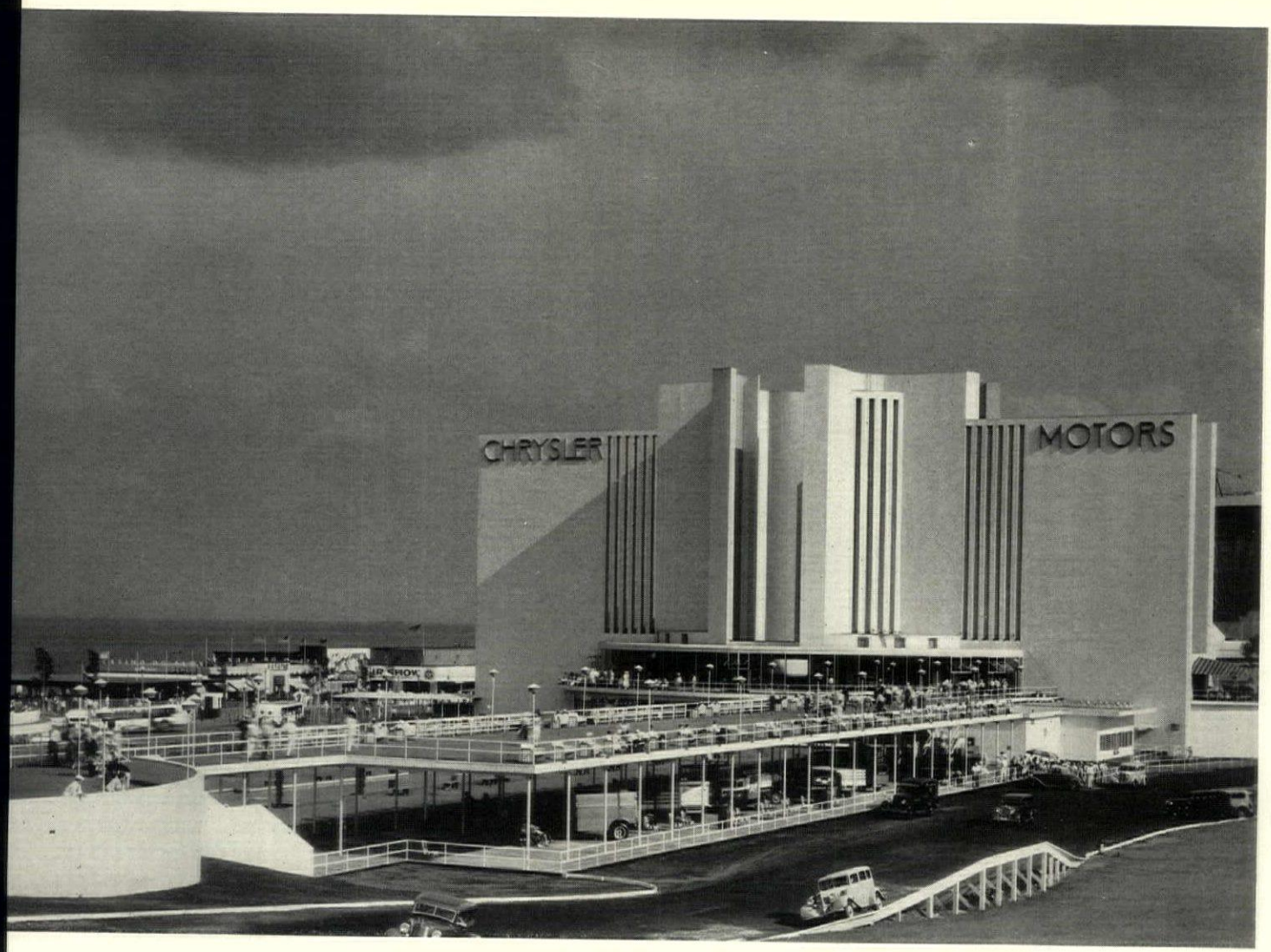
Most other appraisers were of a like mind — and so for that reason we re-present the building for Chrysler Motors.





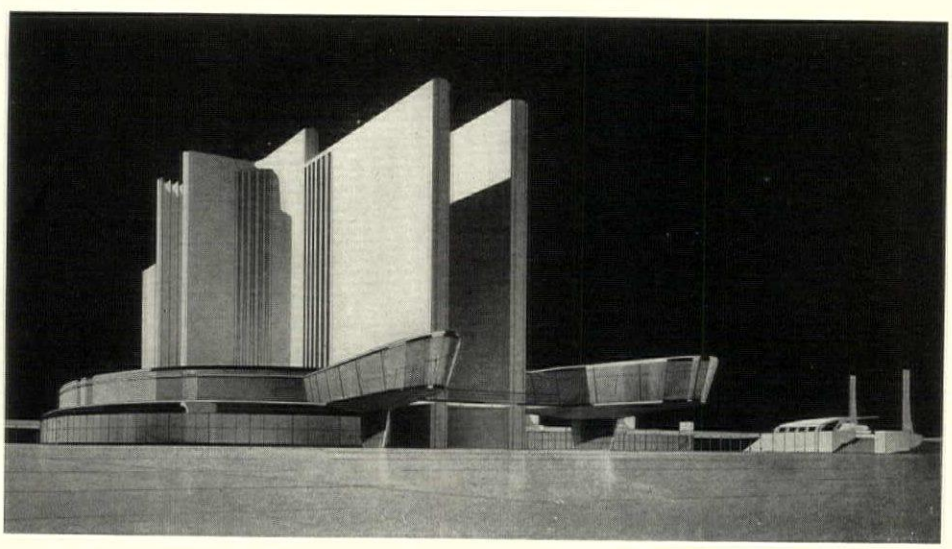
Left, looking up through the cruciform hall

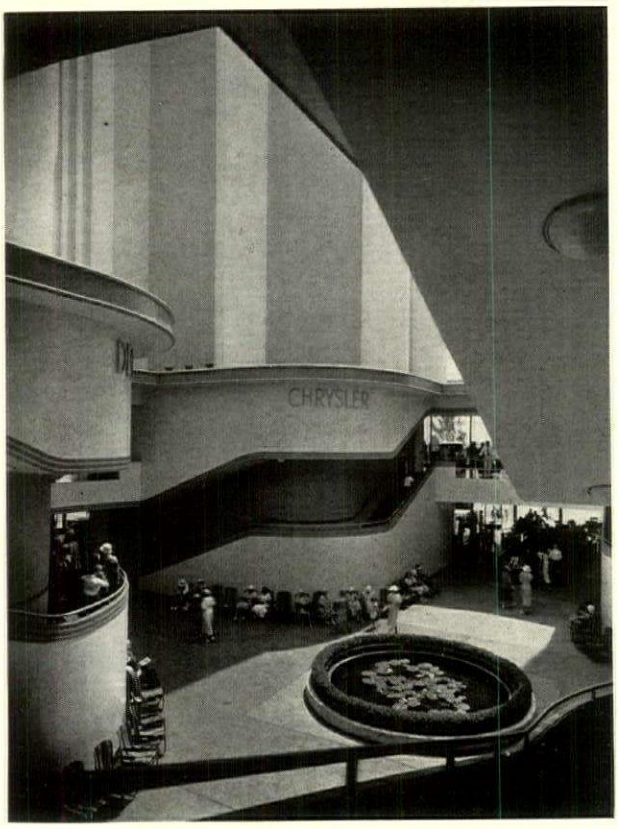
FROM the six entries submitted by six great architects in open competition, the design by Holabird & Root was selected. Limited to 1,000,000 cu. ft., and to a cubic foot cost of not more than 15 cents, the building was spread over a large area. In order to keep the structure within the required cubage the central portion was left without a roof. Its proximity to the tall, impressive Transportation Building persuaded the architects to introduce into the design pylons extending north and south and even wider east and west which would satisfactorily compete in size and splendor with the Transportation Building. The intersection of their twin walls forms the center of a large cruciform hall. This great cross is surrounded at the bottom by the exhibition building proper, two stories high, circular in form, with enclosed walls of plate glass set in steel bars. Within the exhibit building, besides the show space, are rest rooms and a theater. The floors are joined by ramps, not stairs. At the north end, a cyclorama depicts an airplane flight, placed there to attract visitors into the building. An open terrace, roofed over, connects the cyclorama with the main building. To the east is a long reflecting pool in the center of an open plaza, and to the west a quarter-mile demonstration track.



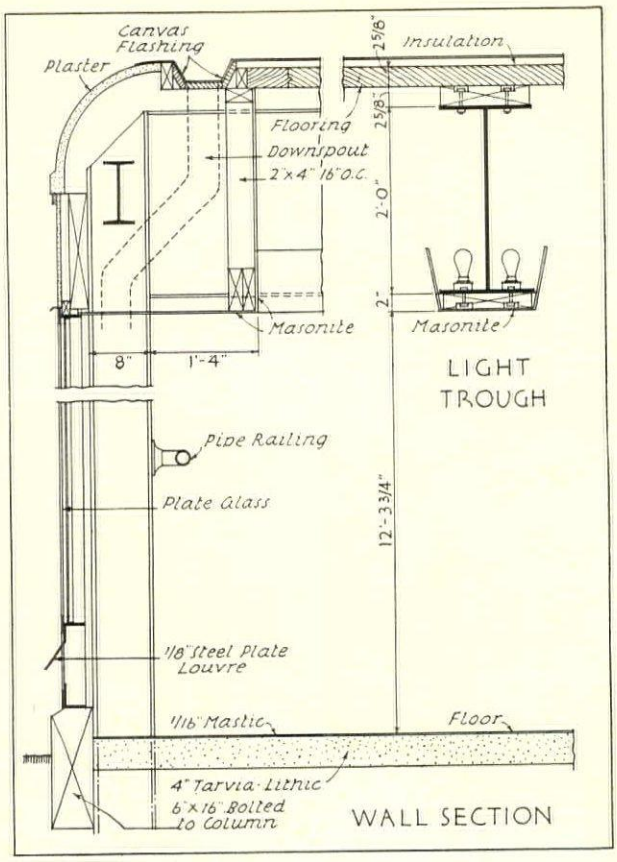
General view from southeast, with proving track in foreground

Architects' competition drawing perspective

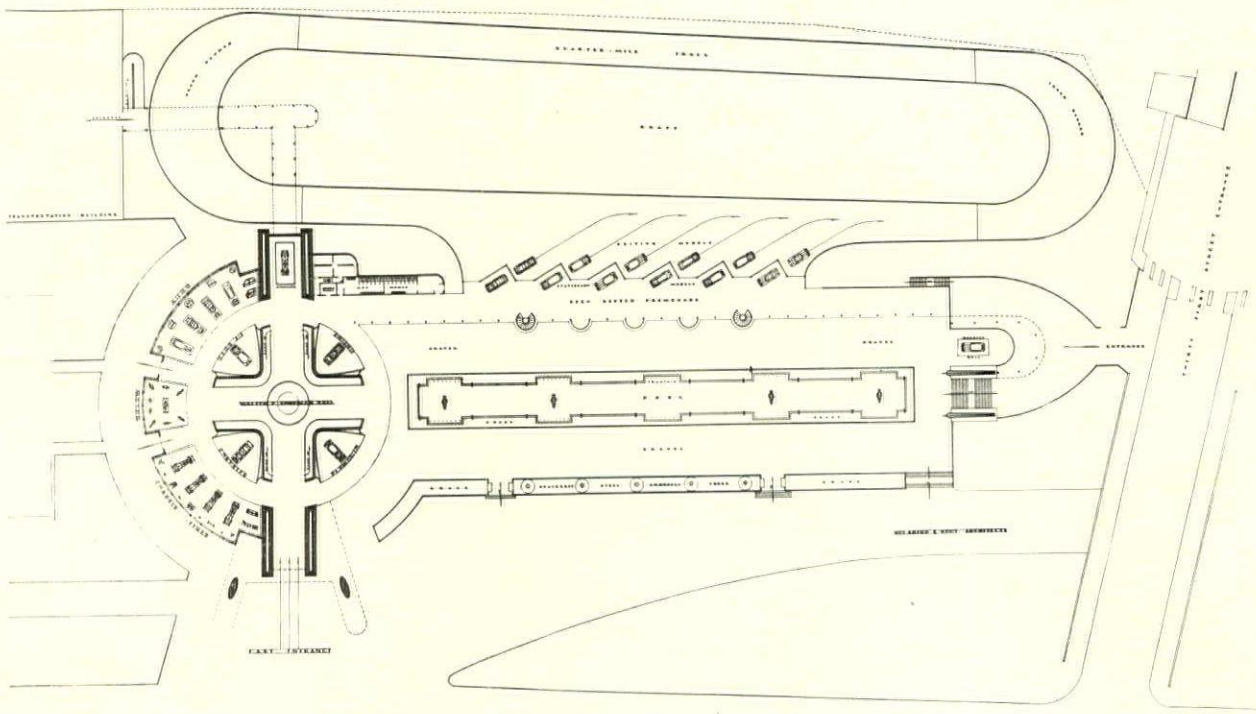




Looking down at central pool in open cruciform hall. Ramps lead to the terraces which overlook the open plaza and proving track. At right, typical wall section, and below, general plan of first floor and grounds



A section through the semicircular, glass walled exhibition space showing its simple but efficient construction. The light trough is especially noteworthy, ingeniously using the structural beam as an integral part of the effective indirect lighting system

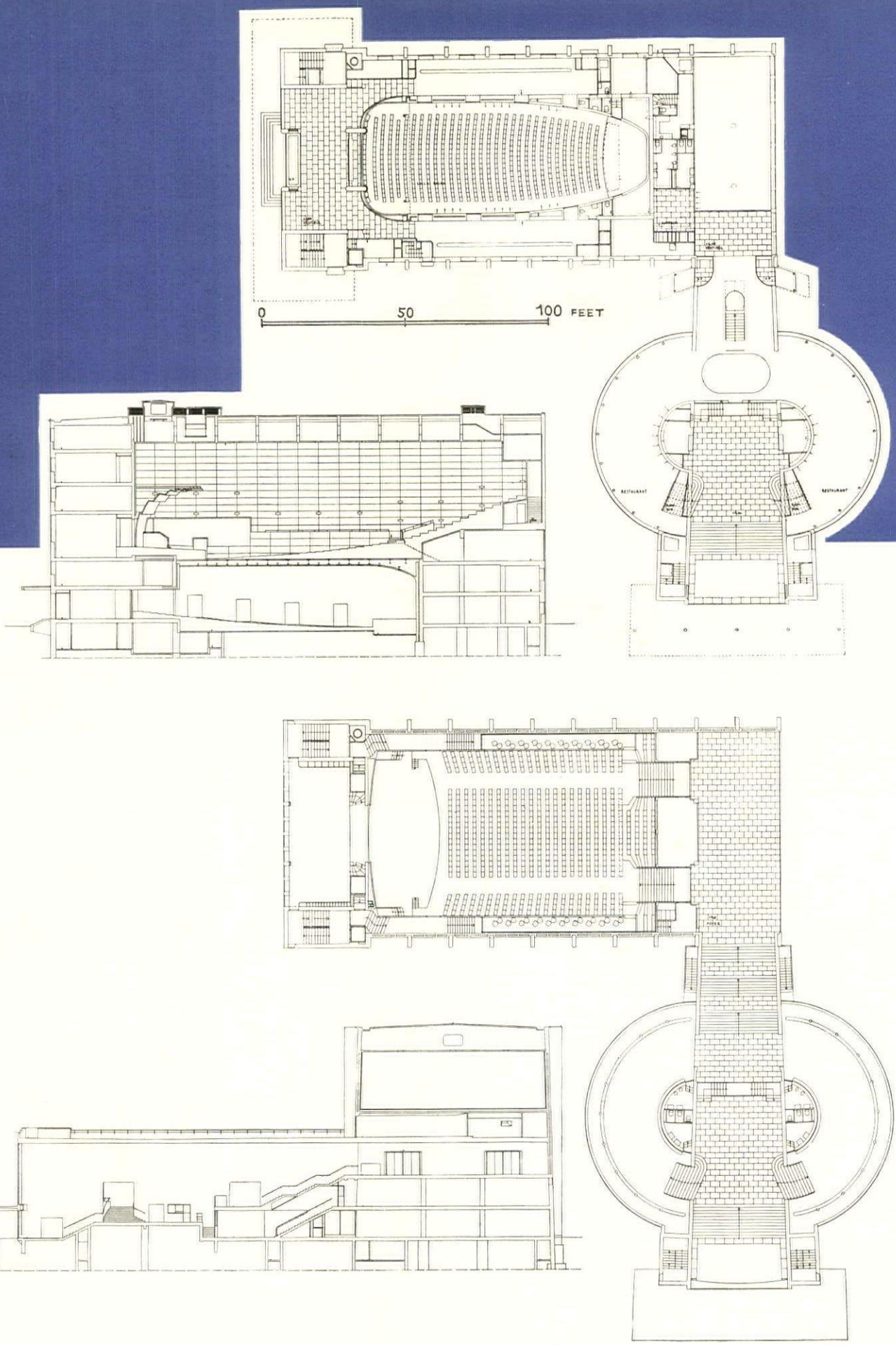


INTERNATIONAL SECTION



SWEDEN

ARCHITECTURAL FORUM



PLANS FOR THE CONCERT-HOUSE · HELSINGBORG



EXTERIOR BY NIGHT

CONCERT-HOUSE · HELSINGBORG
SVEN MARKELIUS · STOCKHOLM
ARCHITECT

Modern architecture is an architecture of light — artificial light quite as decisively as sunlight. The temples of the Egyptians were built sometimes to catch the first rays of the Dog Star on their deep altars. Modern temples of music and the dance are built to irradiate or to reflect the rays of the incandescent lamp.

Impressive in itself, this Concert House by Sven Markelius at Helsingborg becomes a thing alive, a structure with a soul, when it is illuminated. For this effect the architect has modeled his walls to emphasize on the one sharp, detached perpendicular shafts and on the other smooth contours almost unbroken.

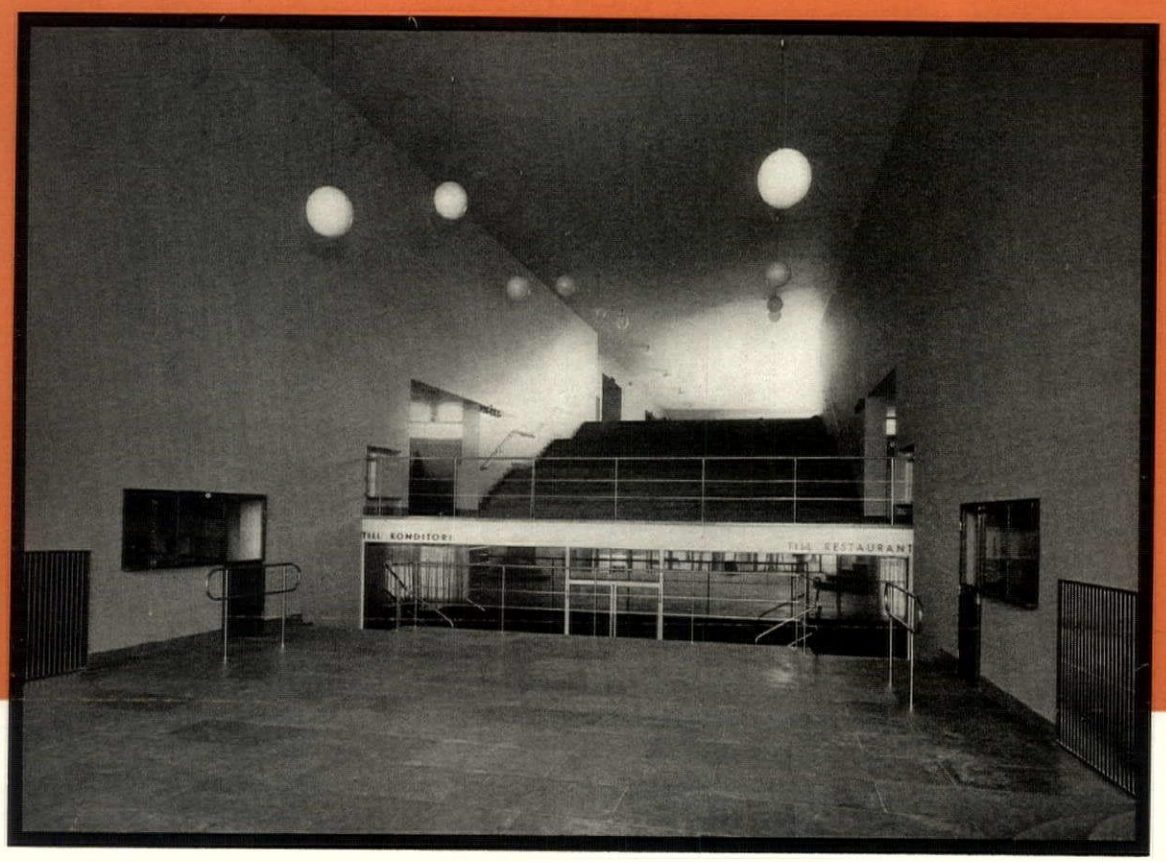


The whole building is built round a skeleton of reinforced concrete with white cement rendering. At the main entrance, here illustrated, the columns which support the fence-roof are of reinforced concrete sheathed in stainless steel.



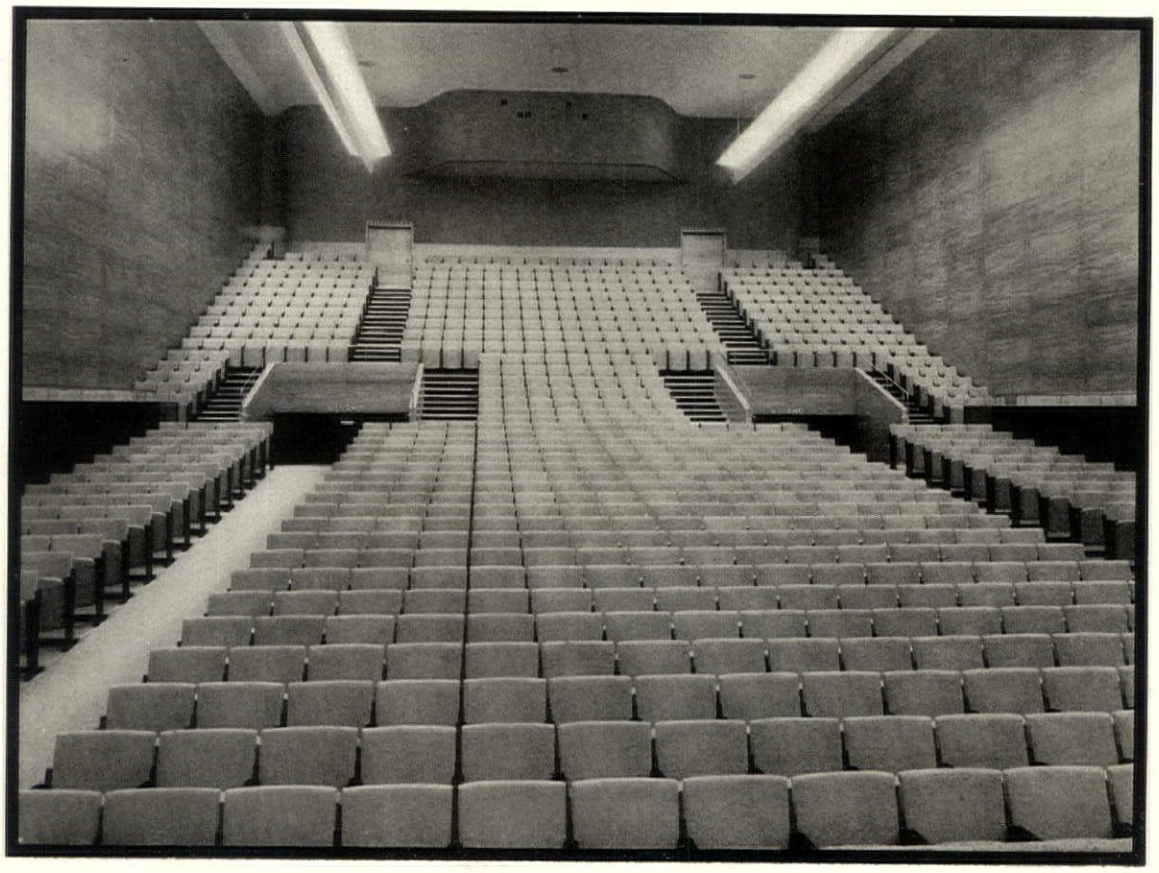
The Great Concert hall, occupying the whole second floor of the main wing and seating one thousand persons, is built as an ascending auditorium. When only a small audience is expected the rear part can be shut off.

Color-tone is given by the light brown sapeli-mahagony which covers the walls. It is modulated, however, by the sand-yellow upholstery, by the grey-green carpet, and by the dark framework of the boxes.



B U F F E T

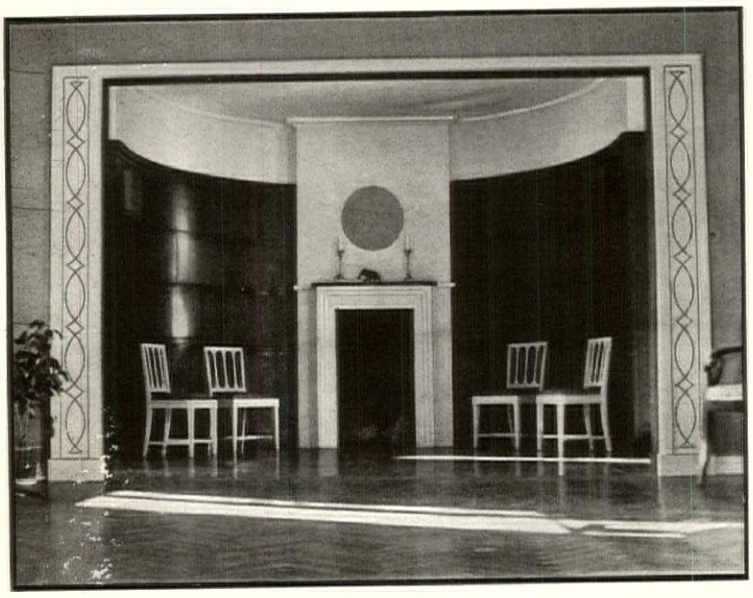
I N T E R I O R O F A U D I T O R I U M



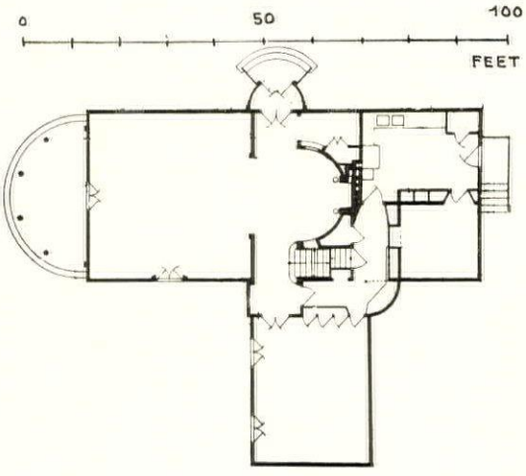


VILLA
S. H. WARNER
ARCHITECT

This villa for summer occupation only is planned as a construction in ordinary wood, based upon foundations of concrete. Standing on the border of the sea, it contains on the second floor guest accomodations, five sleeping rooms, and bath.



INTERIOR



PLAN



THE WATERWORKS OF LOVÖ

PAUL HEDQUIST
ARCHITECT

Confronting the modern problem of making a thing of beauty out of a machine driven shell, Architect Paul Hedquist has achieved success through emphasizing, as is always best, function, utility, and candor above all else.

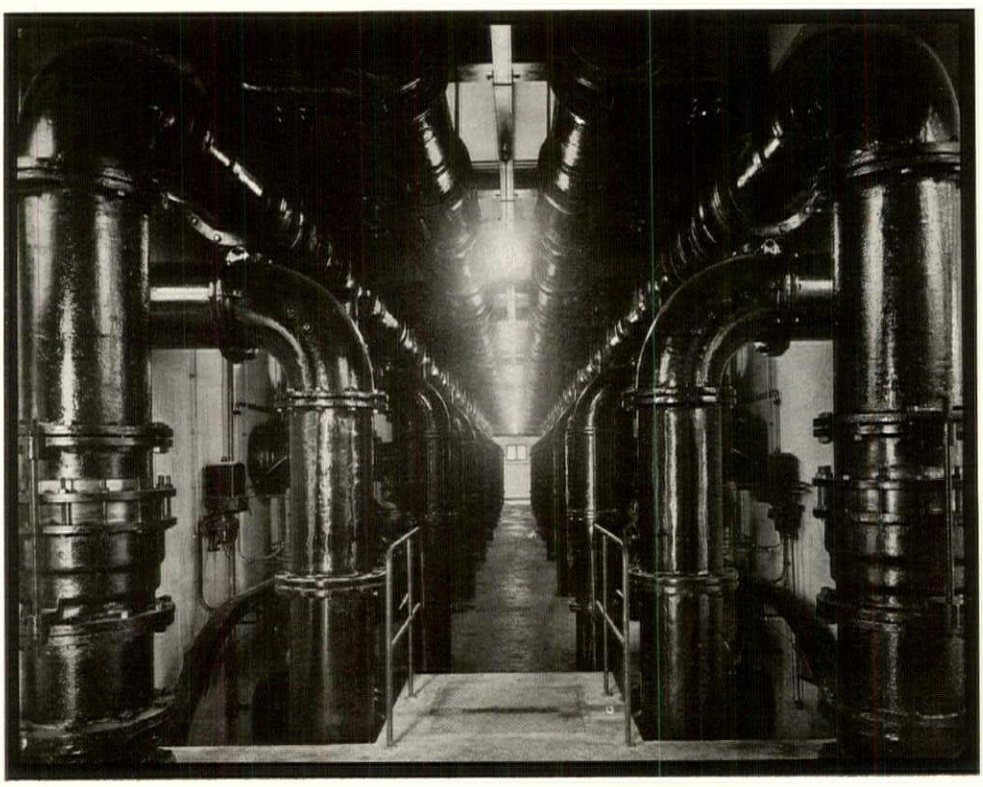
The waterworks at Lovö, supplying the city of Stockholm, is composed of several units, the engine house, the office, the chemical building and the filtration plant.

Construction is of concrete, with exterior walls of bricks. Owing to the dampness, oak has been used for the woodwork of the exterior doors and windows. The roofs are of wood covered with pace-board of slate.



Stainless steel has been used for certain railings of the engine house, and also for the doors of the main entrance.

P U M P R O O M



The pipe gallery, a study in rhythm.



P U B L I C B A T H
P A U L H E D Q U I S T
A R C H I T E C T

The contrast between the traditional old Swedish village and the modern Swedish city is too striking to go unrecorded. Rude contours and Harsh lines are today disappearing.

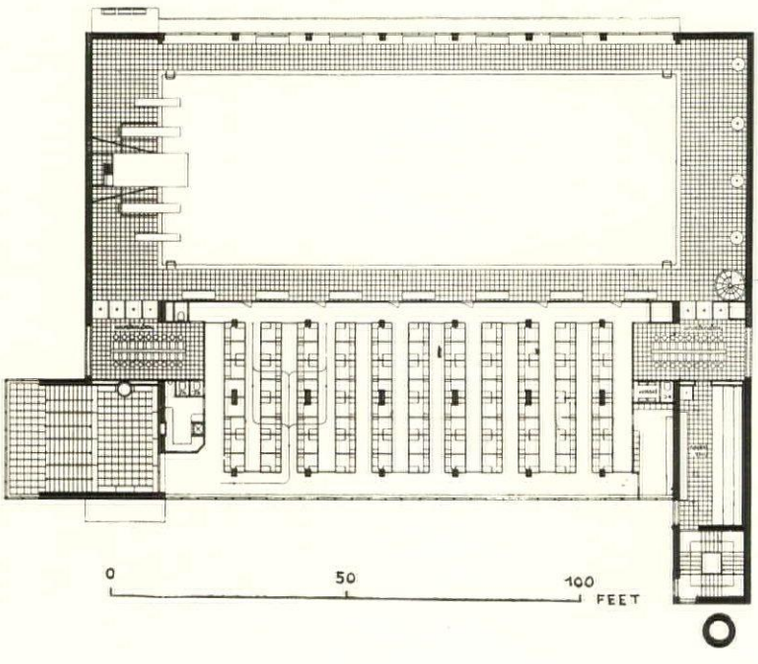
Crass colors also and discordant combinations are being discarded.

Instead of trying to put flames in paint, the new architects are content when a single tone, quite often neutral and retiring, prevails across a whole façade or even across an entire city.

It is enough if sunlight put the flame into life. The architect is intent only upon building a structure which, in this light, wins beauty.



THE POOL



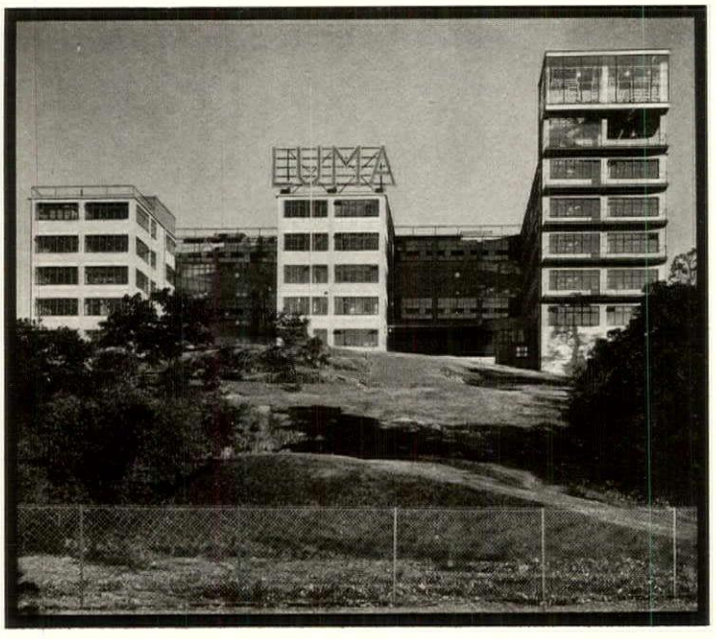
Artificial lighting is provided by "ramps" which are set in the ceiling with V-shaped glass fitting.



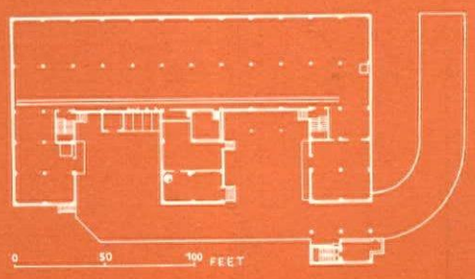
THE PUBLIC BATH OF ESKILSTUNA



TESTING ROOM



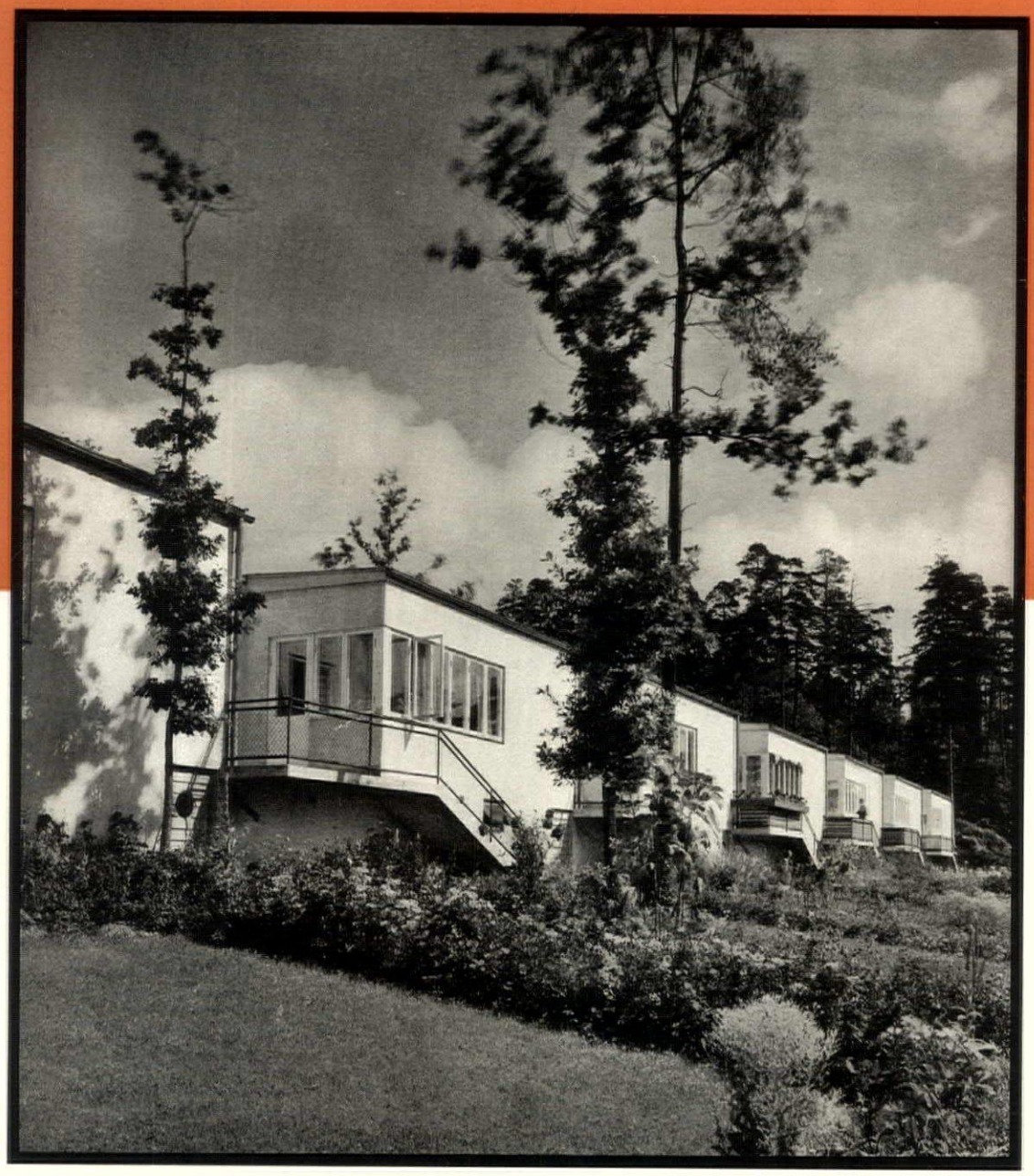
THE THREE WINGS



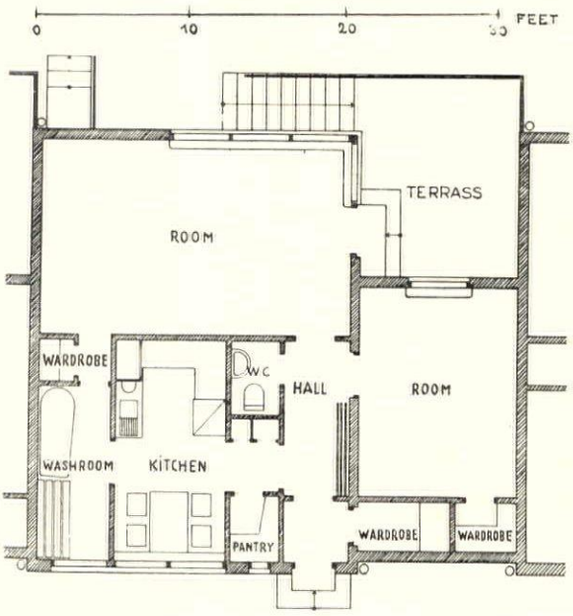
INCANDESCENT LAMP FACTORY
COÖPERATIVE SOCIETY'S
ARCHITECTS OFFICE
(CHIEF ESKIL SUNDAHL)

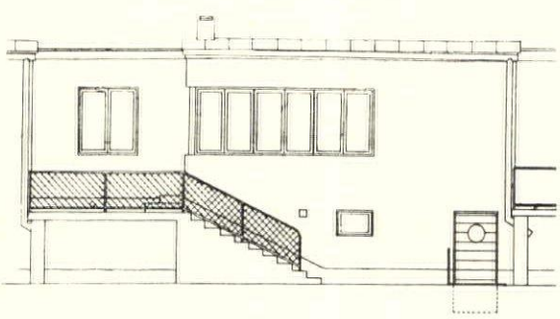
For the Coöperative Society's Incandescent Lamp Factory, at Stockholm, a building has been designed with three wings flanking a central block. This block contains a store-house on the ground floor and two manufacturing halls above. In the east wing are stored the raw materials. The middle wing is devoted to engine rooms, work shops, and repair shops. The west wing accomodates the administration, laboratories, kitchen, dining-room, and changing room.

Tests are conducted on the roof, where, night and day, the lamps which are being tested serve as an advertisement.



LABOURERS' HOUSES AND GARDENS





PLAN AND ELEVATION



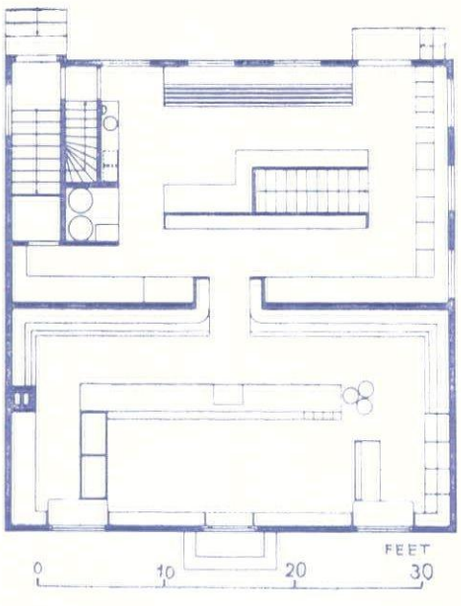
A Coöperative Society general shop wherever it appears throughout Sweden is standardized in its style to conform with all the others. This one contains a shop, a store-room, and a residence for the manager.

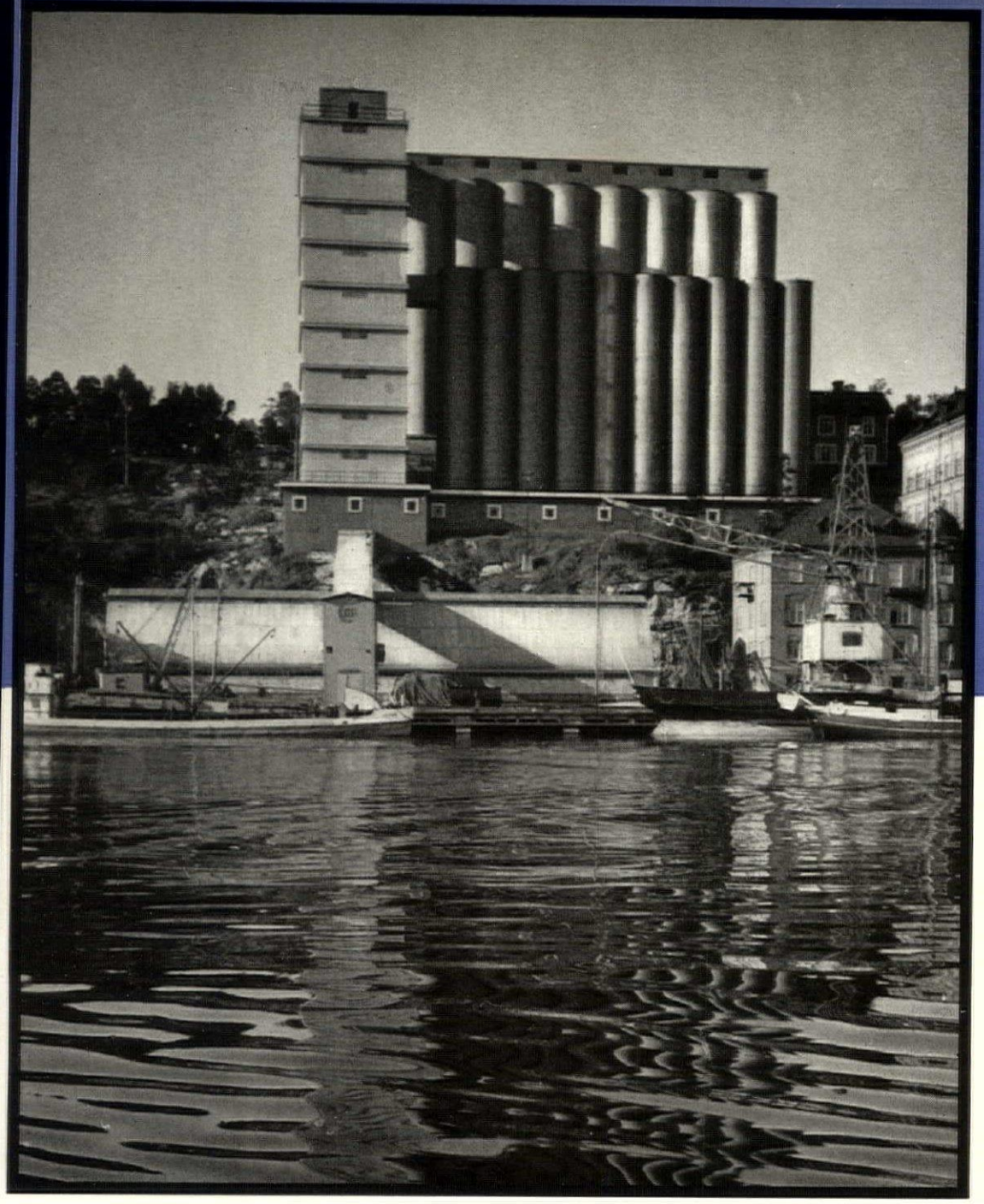
THE TYPICAL GENERAL STORE

The general shop is built of wood on a concrete foundation. The roof is tiled.



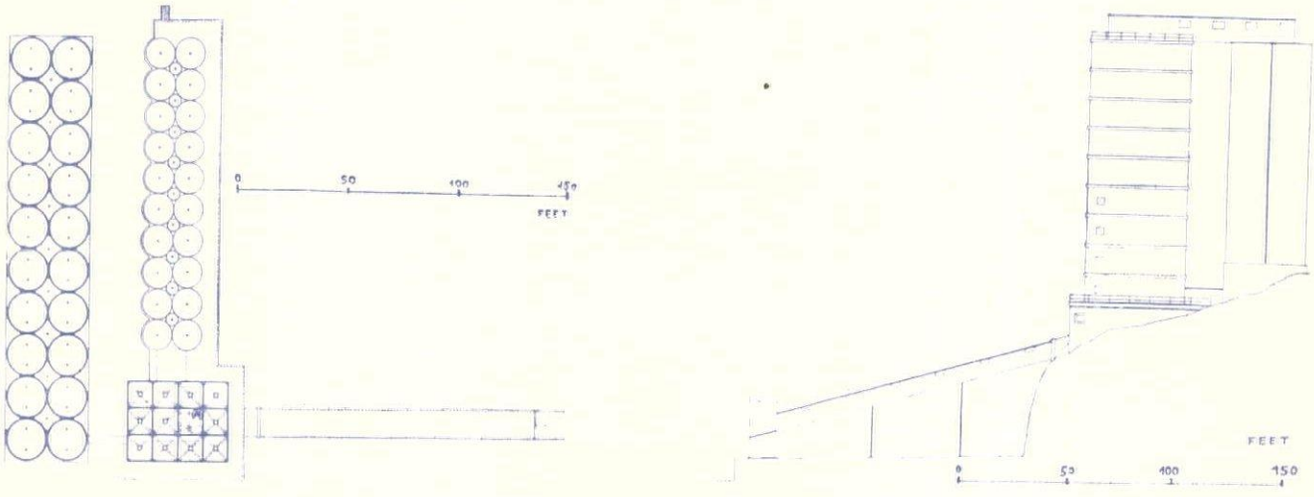
SALES ROOM OF A GENERAL STORE

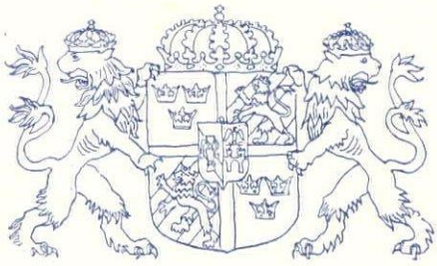




COÖPERATIVE SOCIET
SILO-MILL · STOCKHOL

Designed by the Coöperative Society
architects office, under the directio
of Chief Eskil Sundahl.





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(CHIEF ESKIL SUNDAHL)

COMPOSED AND ARRANGED IN SWEDEN

CODE OF FAIR COMPETITION

for the

ARCHITECTS DIVISION OF THE CONSTRUCTION INDUSTRY

The code as printed below is dated November 2, 1933, as revised subsequent to the post hearing, October 31, 1933. The code as here printed is subject to further revisions after additional hearings are held and therefore is in no way final or binding. It is anticipated that revisions may be made in such vital provisions as hours, wages and proper minimum charges. Since the Architects' Code is a part of a group of supplementary codes for the construction industry, changes may be expected in order that it shall conform to general code and not conflict with the codes of other groups within the industry. Hearings will be held, and the final code approval may be given before the end of the year. The code committee of the A.I.A., in charge of the architects' code, consists of William Stanley Parker, chairman, Frederick Mathesius, Jr., William G. Nolting, Horace W. Peaslee and Francis P. Sullivan.

To effectuate the policy and purposes of the National Industrial Recovery Act, the following provisions are established as the Code of Fair Competition for the Architect's Division of the Construction Industry.

ARTICLE I — APPLICATION

This Code is supplemental to the Code of Fair Competition for the Construction Industry and shall be so interpreted and construed.

ARTICLE II — DEFINITIONS

Section 1. The term "architect" as used herein is defined to mean any person who holds himself out as able to perform or who does perform any professional service such as consultation, investigation, evaluation, planning, design, including æsthetic and structural design, or responsible supervision of construction, in connection with any private or public buildings, structures or projects, or the equipment or utilities thereof, or the accessories thereto, wherein the safeguarding of life, health or property is concerned or involved, when such professional service requires the application of the art and science of construction based upon the principles of mathematics, æsthetics and the physical sciences. It is recognized that the functions of an engineer and of a landscape architect normally include certain architectural functions. Excluding engineers and landscape architects, when exercising such normal architectural functions, any person performing any of the above defined services or undertaking to provide and to be responsible for such services shall be deemed an architect for the purposes of this Code.

Section 2. The term "architectural service" as used herein includes the following procedure:

It is the responsibility of an architect to require from an owner all pertinent facts and data, scope of the work, surveys, property restrictions, easements and sub-soil conditions sufficient to enable the architect to understand thoroughly the full requirements of the work involved.

For full architectural service the architect shall make such studies as may be necessary to solve the varying requirements of the problem, and after the approval by the owner of these studies shall prepare such drawings and specifications as shall enable an accurate estimate of cost and bid to be made thereon; he shall supervise the award and prepare the contract documents; he shall furnish such additional scale and full-sized drawings and instructions as may be required; he shall supervise the work during construction, check shop drawings, issue certificates of payment, keep accurate accounts, and perform such other usual and necessary architectural services as are established by custom. He shall make impartial decisions on all questions arising between owner and contractor.

Materials required shall be definitely described, either in words or by designated products, to permit accurate estimates, and to form the basis of contractors' proposals. If bids for equivalent materials are required or permitted, provision shall be made for submission of alternate prices either in the proposal or subsequent to the award of the contract, right of selection resting with the owner.

The architect may prepare preliminary estimates of cost but shall not guarantee them.

Section 3. The terms "registered architect" or "licensed architect" as used herein are defined to mean any person who is registered or licensed by properly constituted authority to practice as an architect, but such registration or licensing shall not relieve said person, by that fact, from any of the provisions of this Code, nor shall the Code nullify any provisions of such registration or license laws.

Section 4. The term "draftsman" as used herein is defined to mean any individual who is employed by an architect to prepare drawings and/or specifications and/or to supervise execution of work under said architect's direction.

Section 5. The term "student" as used herein is defined to mean any individual who is studying or training to qualify as a draftsman or architect in a properly qualified institution of learning.

Section 6. The term "person" as used herein is defined to mean and include, but without limitation, an individual, a partnership, association, trust, trustee in bankruptcy, or corporation or agency, private or public.

Section 7. The term "employer" as used herein is defined to mean any person who, as an architect, employs others in any branch of his work.

Section 8. The term "employe" as used herein is defined to mean an individual employed by an architect in the conduct of any branch of his work.

Section 9. The term "owner" as used herein is defined to mean any person employing the services of an architect.

Section 10. The term "general contractor" as used herein is defined to mean any person, partnership, company, association, corporation or agency which contracts to superintend, coordinate

and/or execute the work of construction and improvement substantially in its entirety, as is embraced in plans and/or specifications.

Section 11. The term "contractor" as used herein is defined to mean any person employed by an owner to perform any part of any private or public building, structure or work, or the equipment or utilities thereof, or the accessories thereto.

Section 12. The term "subcontractor" as used herein is defined to mean any person employed by a general contractor to execute under contract any part of work for which said general contractor is responsible.

Section 13. The term "Clerk of the Works" as used herein is defined to mean any one employed in the field for continuous supervision.

ARTICLE III — HOURS

An architect shall not permit or require any employe to work more than 40 hours in any one week, except when this limitation prevents the architect from performing with adequate promptness the professional service required of him and such service cannot be adequately performed by additional employes. When an employe works more than 40 hours in any one week, at least time and one-half shall be paid for hours in excess of 48 in any one week, or of 170 in any one calendar month.

The maximum hours of labor permitted, including overtime, shall be 60 hours per week, and 200 hours per month. An architect employing on part time or overtime any one not in his regular employ shall not permit such employe to work more than the maximum number of hours permitted herein, including any time such employe works, during the same period, for any other employer or employers.

ARTICLE IV — WAGES

Section 1. An employe who has had at least two years of experience as a draftsman shall be paid not less than 50 cents an hour. This shall not prevent a student or draftsman lacking such experience from serving an apprenticeship in an architect's office under such conditions and rate of pay as may be acceptable to him and to the architect.

Section 2. No employe, other than draftsmen and students, as defined above, shall be paid less than $15 per week in any city of over 500,000 population, or in the immediate trade area of such city; nor less than $14.50 per week, in any city of between 250,000 and 500,000 population, or in the immediate trade area of such city; nor less than $14 per week in any community of less than 250,000 population.

Section 3. It is agreed that the rates hereinabove set forth establish a guaranteed minimum rate of pay regardless of whether the employe is compensated on the basis of a time rate, piece work performance rate or other basis.

Section 4. In order that the minimum wage rate, established herein as the lowest wage payable in any section of the country for a draftsman of minimum experience, shall not be regarded as a justifiable standard wage; and in order that proper minimum rates may be established for all grades of draftsmen employed, the Authority (as hereinafter defined) shall establish through subordinate regional, State, or local organizations of architects, after public hearing, detailed schedules of fair minimum wage rates for junior and senior draftsmen, specification writers, and other technical assistants, with definitions of training, experience, and capacity covering each group. Upon the approval by the Administrator of any such schedule, after such notice and hearing as he may specify, it shall become effective as a part of this Code as if originally approved as part thereof. Such schedules in all cases shall be imposed as minimum but not as standard or maximum rates, shall take into account the variance in living costs between the several regions, and shall be revised from time to time as may be necessary. Provision shall be made for student or apprentice classes on such bases as shall not tend to debar them from the opportunity to obtain office experience.

ARTICLE V — UNFAIR COMPETITIVE PRACTICES

Section 1. An architect shall not knowingly compete with another architect on the basis of professional charges.

Section 2. An architect shall not render services without a proper charge for them, except for preliminary services in cases where the architect is the bona fide originator of the project and of the design.

Section 3. A proper minimum charge for full architectural service has been recognized by the profession, by the public, by court decisions, and by agencies of the United States Government, as 6 per cent of the cost of the work on which such service is rendered.

A proper minimum charge has been recognized by the profession and by the public as follows:

For specialized work requiring more than usual services, residential work, churches, alterations, additions, monuments, furniture, decorative and cabinet work, for landscape work incidental to the architect's services, and for work let under segregated contracts; more than 6 per cent.

For operations involving substantial repetition of floors or buildings, less than 6 per cent, and in other justifiable cases, in which cases the architect shall report the conditions to the Authority.

Section 4. An architect shall not charge less than the minimum charges applicable to the region in which the construction work is located, as determined by the schedules of charges established pursuant to the provisions of Article VII, Section 6 hereof after such schedules have been approved by the Administrator. Until such schedules have been so approved architect's charges shall be not less than the recognized minimum charges cited in Section 3 of this Article.

Section 5. For purposes of computing charges the "cost of the work" shall be the total of the contract sums incurred for the work including the retail market value of labor and material furnished by the owner but excluding the architect's and engineer's charges and the salary of the clerk of the works. No deductions shall be made from the architect's charge on account of the use of old materials, penalty, liquidated damages, or other sums withheld from payments to contractors.

Section 6. If the character of the work requires engineering, landscape architecture, or other specialized services not included in the above statement of the functions of the architect it is the architect's duty to recommend specialists for employment by or on behalf of the owner and to coordinate their work. When such specialists are not paid direct by the owner, an architect shall make an additional charge to cover the cost of their services. When performed by his own organization, the charge shall be equivalent to the cost of equal independent service.

Section 7. An architect shall make a charge to the owner to cover the cost of transportation and living incurred by himself and his assistants while travelling in discharge of their duties, models not covered by contract, telegrams, toll charges, expressage, and other customary incidental expenses.

Section 8. The architect shall furnish one set of general drawings and specifications for the use of the owner which shall be his property; one complete set including all details for the use of the contractor; and as many as needed but not more than six sets for the taking of bids. He shall charge at cost for the use of all other copies furnished, charging the owner for copies furnished to more than six invited bidders, and charging the bidders or the contractor for all additional sets or copies supplied. All such copies, with the exception of signed contract copies, shall be returnable to him on demand.

Drawings and specifications shall carry the name of the architect; and, as instruments of service, shall be the property of the architect, whether or not the work for which they were made be executed, unless otherwise agreed.

Section 9. If after a definite scheme has been approved by the owner he makes a decision which, for its proper execution, involves extra services and expense for changes in or additions to the drawings, specifications, or other documents; or if a contract be let by cost of labor and materials plus a percentage or fixed sum; or if the architect be put to labor or expense by delays caused by the owner or a contractor or by the delinquency or insolvency of either, or as a result of damage by fire or other casualty, he shall make a charge.

Section 10. An architect shall make an equitable charge to cover the cost of services rendered in connection with the purchase of articles under his direction, even though not designed by him.

Section 11. Where the architect is not otherwise retained, he shall make a charge for consultation or other professional service in proportion to the importance of the question involved and services rendered.

Section 12. For partial services originally agreed upon, or where work is abandoned in whole or in part, or the architect's services terminated, he shall charge for the proportion of the normal service actually rendered, in accordance with or in proportion to the following standard subdivision of his charges which shall also form the basis of his usual progress charges:

a. For preliminary studies, a sum equal to twenty per cent of the total charge computed upon a reasonable estimated cost of the work.

b. For specifications and general working drawings (exclusive of details) adequate for contract, a sum sufficient to increase payments on the fee to 60 per cent of the total charge computed upon a reasonable cost of the work based upon such specifications and drawings, or if bids have been received, then computed upon the lowest bona fide bid or bids.

c. For detail drawings and supervision, including checking of shop drawings, issuance of certificates of payment, keeping of accurate accounts, and other usual and necessary architectural services during construction, the balance of his charges in monthly installments in proportion to the amount of service rendered.

d. During the preparation of the preliminary studies and of the specifications and general working drawings, it is proper that payments on account be made at monthly or other intervals, in proportion to the progress of the architect's service, and so as to aggregate in each period not more than the sums described above.

e. When an architect is employed for partial services on work not under his general control he shall make a charge in proportion to the scope of the work under his jurisdiction and the services rendered.

Section 13. When the character of the work requires continuous supervision the architect shall so inform the owner and if authorized by him a clerk-of-the-works, acceptable to both owner and architect, shall be engaged by the architect at a salary satisfactory to the owner and paid by the owner upon presentation of the architect's monthly certificates.

Section 14. When two or more architects submit designs or data to an owner simultaneously for the same project, they shall do so only upon identical written requirements and conditions, the submission being anonymous, and the selection made by the owner with the assistance of one or more competent, impartial, technical advisers, at least one of whom shall be an architect, with an agreement that each architect shall be paid at least the reasonable cost of his work.

Section 15. To insure fair competition, architectural services shall not be offered, given, sold or distributed by architects to or through, contracting, merchandizing, or publishing organizations or agencies except on the basis of charges established pursuant to Article VII, Section 6 hereof.

Section 16. No architect shall have any undisclosed financial interest in the work of a client.

Section 17. Nothing in this Code shall be construed as preventing an architect from working on a fee-plus-cost basis, provided the gross charge be not less than the minimum charge established under this Code. In computing his costs an architect shall include an equitable charge for the time during which he is personally engaged in working on the project, which shall be not less than the amount that would be paid to a qualified employe doing work of a similar character. Nothing in this Code shall be construed as preventing an architect from working on a salary basis provided his compensation is such that the performance of his duties does not constitute unfair competition with architects doing similar work in independent practice.

Section 18. No one normally employed to perform architectural service, other than teaching, on a full time salaried basis, shall perform architectural service outside of his salaried duties except in a consulting or advisory capacity.

Section 19. For the purpose of enforcing the provisions of this section, no architect shall proceed with a commission for a building project, estimated to cost more than $4,000, without first entering into a written agreement with the owner or other responsible person, such agreement to be made available on demand for inspection of the Authority or its delegated representatives.

Section 20. Rebates, Discounts and Special Favors:

a. No architect, nor employe, shall accept or receive any rebate, discount, bonus, fee, commission, salary, gift, or other valuable consideration from any one having a pecuniary interest, direct, indirect, or prospective, in any work which he designs, or plans, or the execution of which he supervises or coordinates, except from the owner or architect respectively. Nothing herein shall prevent an architect having a disclosed interest in a real estate development of which his client's operation is a part.

b. No architect shall give any donation, rebate, discount, bonus, fee, or commission to an owner in order to reduce his fee or to any one other than a member of the architect's organization, in order to influence or procure employment.

c. An architect shall not permit contractors, material producers, or others, to perform any part of his service for him without proper compensation to them therefor. This does not refer to customary shop drawings, or the use of current technical trade information issued for the information of architects and others. The architect shall not permit any person acting as a designer on any part of the work to estimate competitively on such work designed by him, except under conditions that will assure fair competition.

ARTICLE VI — COMPETITIVE BIDDING PRACTICES

Sections 1 to 12, inclusive, of Article XII of the Code of Fair Competition for the Construction Industry, are hereby adopted and made a part of this Code, and an architect when inviting competitive bids shall comply with all the provisions thereof.

ARTICLE VII — ADMINISTRATION

Section 1. To effectuate the purposes of this Code and provide for its administration in cooperation with the Administrator there is established an Architects' Code Authority (herein termed the Authority) consisting of nine members appointed by the Board of Directors of The American Institute of Architects, three of such appointees to be architects not members of the Institute.

The term of such appointments shall not exceed two years except that, in the event of Code continuance beyond the limit now established by law, terms may be readjusted by the original appointing agencies to insure overlapping tenures of office. Appointees are subject to replacement by the appointing agency with the approval of the Administrator.

Section 2. (*a*) The Authority shall, in cooperation with the Administrator and subject to his supervision and direction, as hereinafter provided, be charged with the administration of this Code. It shall have full authority and responsibility to recognize or establish subordinate regional, State, and local agencies, and to prescribe such rules and regulations as it deems necessary and as are approved by the Administrator to carry out the purpose of this Code and of the National Recovery Act. It shall be the duty of the authority to investigate and to act in all cases brought to its attention involving failure to render full architectural service for minimum fees charged, or complete partial service for any fixed portion of any such fee.

b. The Authority shall coordinate its activities with the administrative agency established by the Code of Fair Competition for the Construction Industry.

Section 3. (*a*) In order that the Authority shall at all times be truly representative of the industry and in other respects comply with the provisions of the Act, the Administrator may provide such hearings as he may deem proper; and thereafter, if he shall find that the Authority is not truly representative or does not in other respects comply with the provisions of the Act, may require an appropriate modification in the method of selection of the Authority.

b. Each association participating in the selection or activities of the Authority shall impose no inequitable restrictions on membership and shall submit to the Administrator true copies of its articles of association, by-laws, regulations, and any amendments when made thereto, together with such other information as to membership, organization, and activities as the Administrator may deem necessary to effectuate the purposes of the Act.

Section 4. The Authority may from time to time require from architects such reports, data, statistical and other information as may be pertinent to the operation of this Code and as may effectuate the policy of the National Industrial Recovery Act, or as may be desired by the Administrator.

Section 5. In order to collect the above information for the Administrator and in order further to effectuate the policies of the Act and provide coordination of the activities of the mem-

bers of the architectural profession, the Authority may require the registration, in such manner as it may deem appropriate, of all architectural contracts for work costing in excess of $4,000 by architects participating in or accepting any benefits of the activities of the Authority; and in order to defray the expenses of such registration and of the preparation, distribution, and administration of this Code, the Authority may apportion the expense upon such registrants in proportion to the value of the contracts registered. The proceeds so derived shall be apportioned on an equitable basis between the Authority and the various regional, State, and local authorities as established hereunder.

Section 6. To maintain fair minimum charges and to avoid price cutting, but without any attempt at price fixing, the Authority shall establish, subject to the approval of the Administrator, after such notice and hearing as he may specify, through subordinate regional, State, or local organizations of architects, detailed schedules of fair minimum charges for all types of work. It shall be the duty of the Authority to coordinate the various local schedules, to confer with other branches of the construction industry, and to establish, on a national basis where desirable, charges for various kinds of partial service required to meet the legitimate needs of owners unable to obtain or not desirous of employing full service, and for the repeated use of standard designs or other method of service best adapted to meet economic or local requirements. Where the initiative is not taken by such organizations, the Authority shall proceed without delay to set up such detailed minimum schedules for such region, State or locality with due regard to the recognized charges stated in Article V, Section 3 hereof, and to local conditions of practice. The recognition of such schedules shall in no way operate against an architect charging a higher rate on account of training, experience, reputation, or specialized practice.

Section 7. To make possible the determination of conditions that will insure uniformly fair standards of practice, the Authority may recognize or establish subordinate regional, State or local organizations, where and as it deems wise, and may require from time to time from such organizations such reports on local conditions, on employment and standards of practice as it deems pertinent to the operation of or the improvement of this Code and as may tend to effectuate the policy of the National Industrial Recovery Act, or as may be desired by the Administrator.

Section 8. To stimulate and stabilize employment, and to conserve natural resources, the Authority shall establish, through subordinate regional, State, or local organizations of architects, agencies whose function shall be to investigate possibilities for administering work so as to provide the maximum practicable continuity of employment; for developing projects affording relief to unemployed; for increasing the use of products obtained from local sources, with recommendations for changes or improvements prerequisite to such increased use; and for avoiding wastage of materials by the correction of uneconomic practices.

Section 9. To assure fair competition and to prevent the rendering of service below the cost to the architect, to insure fair bases for determination of cost-plus-fee contracts for architectural service, the Authority shall proceed, with the cooperation of subordinate regional, State and local agencies, to develop standards of cost accounting with uniform methods of determining overhead, inclusion of principal's time, and other chargeable items.

ARTICLE VIII — APPEALS

Section 1. Any interested party shall have the right of complaint to the subordinate regional, State or local agency recognized or established by the Authority pursuant to provisions of Article VII, Section 2 hereof, having jurisdiction over the location of the construction work involved, or the location of the place of business of the complainant, and of a prompt hearing and decision in respect of any decision, rule, regulation, order or finding made by such agency, and under such rules or regulations as may be prescribed by the Authority.

Section 2. Any interested party shall have the right of appeal in respect of any decision, rule, regulation, order or finding made by the subordinate agency described in Section 1, such appeal being in the first instance to the Authority, and from its decision to the Code Authority of the Code of Fair Competition for the Construction Industry, and from its decision to the Administrator, in each case under such rules of procedure and proper charges to cover cost of investigation and hearing as may be prescribed by the agency appealed to.

ARTICLE IX — GENERAL LABOR PROVISIONS

Section 1. Employes shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employers of labor, or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection.

Section 2. No employe and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing.

Section 3. Employers shall comply with the maximum hours of labor, minimum rates of pay, and other conditions of employment, approved or prescribed by the President.

Section 4. An architect shall not employ any one under sixteen years of age, except that persons between fourteen and sixteen may be employed for not to exceed three hours per day between 7:00 A.M. and 7:00 P.M., on such work as will not interfere with hours of day school.

Section 5. An architect shall endeavor to administer work in his charge so as to provide the maximum practicable continuity of employment for his draftsmen and other employes.

Section 6. All employers shall post complete copies of this Code in conspicuous places accessible to employes.

ARTICLE X — CONTRACTUAL RELATIONS

The provisions of the Contract Documents of The American Institute of Architects, Fourth Edition, which have been approved by the National Association of Builders Exchanges, the Associated General Contractors of America, the Joint Conference on Construction Contracts, the National Association of Master Plumbers, the National Association of Sheet Metal Contractors of the United States, the Association of Electragists, International (now National Electrical Contractors' Association of the United States), the National Association of Marble Dealers, the Building Granite Quarries Association, The Producers' Council, and the Building Trades Employers Association of the City of New York, as noted thereon, with such amendments thereto as shall be approved by the Code Authority of the Code of Fair Competition for the Construction Industry, shall be considered as standard and shall be conformed to so far as practicable in each building operation.

ARTICLE XI — MONOPOLIES, ETC.

No provision of this Code shall be so applied as to permit monopolies or monopolistic practices, or to eliminate, oppress, or discriminate against small enterprises.

ARTICLE XII — MODIFICATION

Section 1. This Code and all the provisions thereof are expressly made subject to the right of the President, in accordance with the provision of subsection (b) of Section 10 of the National Industrial Recovery Act, from time to time to cancel or modify any order, approval, license, rule or regulation issued under Title I of said Act and specifically, but without limitation, to the right of the President to cancel or modify his approval of this Code or any conditions imposed by him upon his approval thereof.

Section 2. This Code, except as to provisions required by the Act, may be modified on the basis of experience or changes in circumstances, such modification to be based upon application to the Administrator and such notice and hearing as he shall specify, and to become effective on approval of the President.

ARTICLE XIII — ARBITRATION

Arbitration, according to the procedure approved by the American Arbitration Association, is declared to be an appropriate method for adjudication of disputes arising out of contractual agreements between the architect and his employer; and for adjudication of disputes to be included by architects in the general conditions of building contracts.

ARTICLE XIV — EFFECTIVE DATE

This Code shall become effective on the second Monday after its approval by the President.



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NEW DAY ELEMENTARY SCHOOLS

A STUDY OF ARCHITECTURAL DEVELOPMENTS KEEPING PACE WITH THE REQUIREMENTS OF PROGRESSIVE EDUCATION

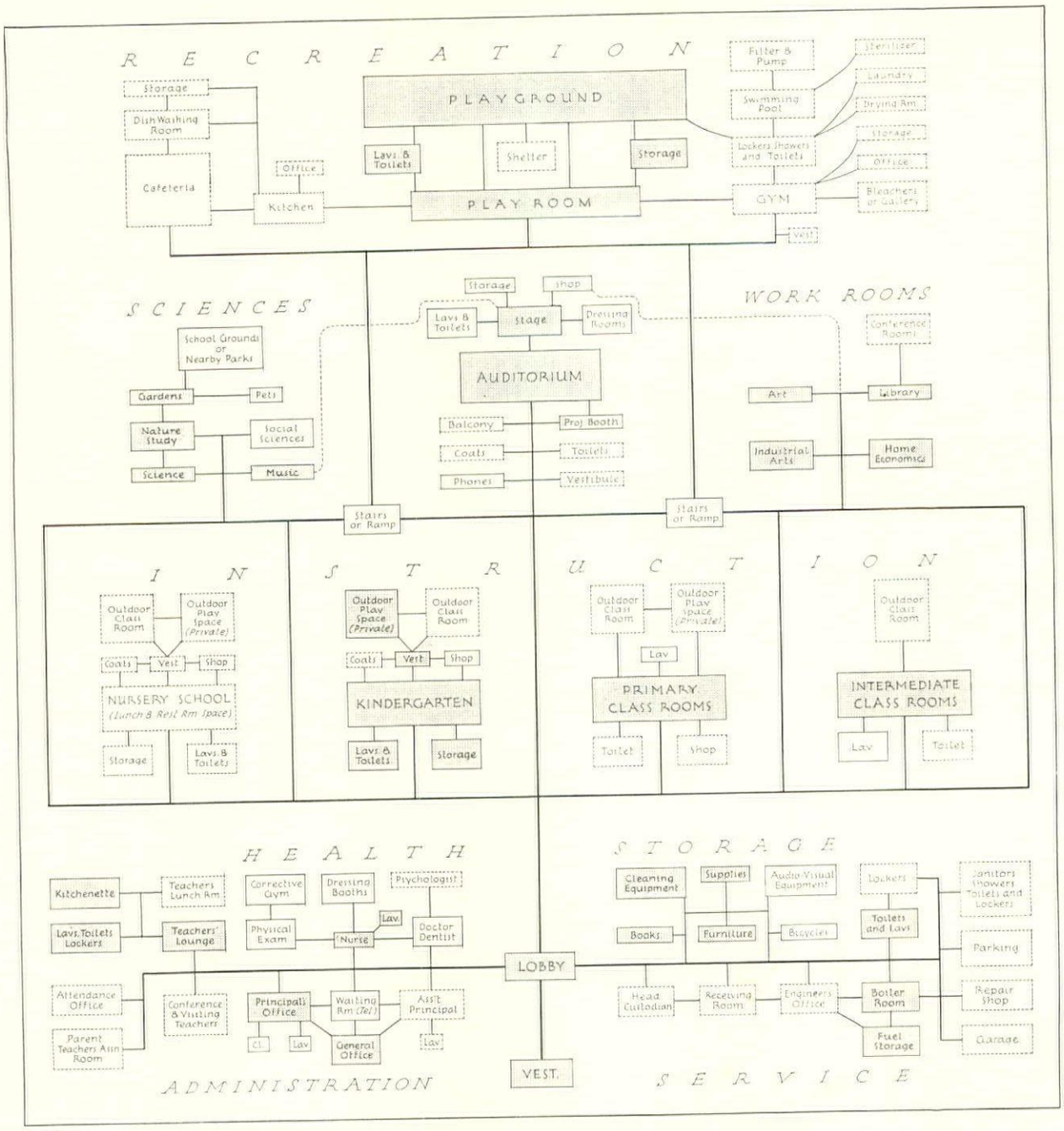
BY JOHN HANCOCK CALLENDER

EIGHTY per cent of all rural schools, sixty per cent of all urban elementary schools are completely antiquated and should be replaced. The rest are not necessarily satisfactory, but if properly maintained and judiciously altered to suit modern needs, they are still usable. The percentage of schools completely satisfactory from an educational point of view is ridiculously small.

The situation has been aggravated by the almost total cessation of building during the last three years. Increase in population plus the extraordinary increase in secondary school attendance, as a result of unemployment, have overcrowded the existing facilities to a critical point. Fortunately, the availability of Federal funds for school building and the gradual subsidence of those selfish and short-sighted minorities calling themselves "taxpayers leagues," justify the belief that extensive new school construction should be imminent.

When building is resumed, changes in school design may be expected. Factors influencing the design of new schools may be grouped under three general headings: (1) The extreme social and economic changes brought about by the depression, (2) the justifiable demand for genuine economy, (3) the continuous, gradual acceptance of modern educational ideas. These factors are obviously closely interrelated and frequently conflict.

Standardization vs. Revolution. Most important of conflicting trends is that toward extreme standardization of public school buildings on the one hand, and on the other, toward complete abandonment of conventional design and development of a new instrument better suited to the aims and meth-



FUNCTIONAL CHART FOR ELEMENTARY SCHOOLS

Based upon modern educational trends, with provisions for rooms and activities not found in schools of the older type, this chart serves as an outline for planning. Logical grouping of units, chosen in accordance with the specific needs of the community and its educational program and molded into a plan well oriented and flexible, is the theory of modern elementary school planning

ods of modern educational theory. The former movement has resulted in standardizing the classroom to the most minute detail; the latter asks, "Are we sure that we need classrooms?"

Standardization has been an ideal of many leading educators and their unceasing efforts toward this end have produced results. New York City, for example, has adopted a number of type plans and specifications, duplicated without change whenever possible, for all rooms, groups of rooms, equipment, as well as more than 300 construction details. The considerable saving in money and time and the guarantee that all schools shall be up to the required standard, are the obvious advantages. Under such conditions, the architect can be little more than an exterior decorator.

New York is an extreme case, of course, but the same tendency will be found to some degree in every city in the country. Furthermore, most States have special laws covering design and construction of schoolhouses, and some State codes are exceedingly detailed. These laws, with the demands of the local board of education, may leave the architect of even the rural school with little more freedom of choice than he would have in "designing" a definitely standardized school for a big city.

On the other hand, there are many authorities who are in favor of wiping the slate clean and beginning anew. They see the conventional school of today, particularly the elementary school, as nothing but the little red schoolhouse integrally multiplied, with the occasional addition of a few special rooms. With the revolution of educational theories and methods in the last twenty years, it seems extremely doubtful that the building, remaining essentially the same, could still be the most efficient instrument for the modern school. Exactly how the modern school should be built, there is no general agreement. Continuous research is definitely needed on this important subject.

Progressive Education. Modern education emphasizes learning by living. The entire motive power is supplied by the interests of the pupil. As soon as they are discovered, the teacher maps out a program for each child based upon his interests. He works on individual or group projects, following more or less his own methods and inclinations. The child learns for himself. He learns more and he learns it better, since he acquires knowledge not in isolated pills but in an integral relationship, vivified by first-hand experience and the pride of discovery. Materials and tools and places to use them are readily available, as are objects of study. The latter are preferably studied at first hand; otherwise sound movies, models, books, pictures, phonograph and radio are used. The compulsory memorizing of arbitrary facts is reduced to the minimum.

The institutional attitude and atmosphere are replaced by that of the workshop, studio, club and home. The child's life is not sacrificed to his education; while at school he should be living a complete, a happy life. Recreation is highly valued as an integral part of the educational process; the importance of health is stressed.

Modern Elementary School. The problem of designing the plant so that it shall not merely house these activities, but shall function as a working part of the process of education, has not yet been fully solved. The problem should be approached with modern educational theory as a base, using past practices as a check only.

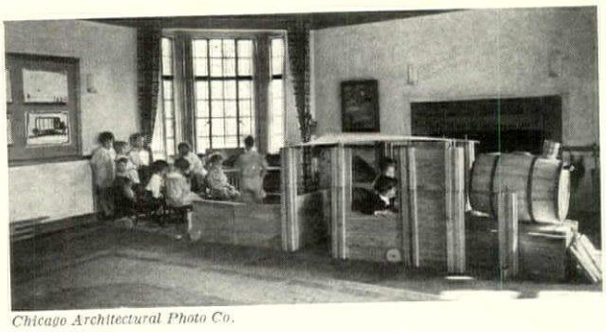
The nucleus around which the school is organized is formed by the objects of instruction, to be housed in work rooms, shops, studios, laboratories and conference rooms. Although there seems to be no need for classrooms from the educational point of view they perhaps should be retained in one form or another for administrative convenience or for social reasons. Even the most advanced experimental schools of the present day have rarely abolished classrooms. Facilities for recreation should be increased to the maximum, and the normal amenities of modern living supplied. Plenty of space both indoors and out, abundance of sunlight, the avoidance of all institutional character are primary requisites.

In actual practice no elementary school has adopted this program in its entirety, nor is one likely to do so immediately. But for the last decade schools all over the country have been taking over a bit here and a larger part there, often modifying it to conform with the rest of their work. Even the most backward schools show influence from that source, while some of our most advanced public schools have all but gone the full way. The design of the school building in any particular case will naturally be modified by the extent to which modern educational ideas have been accepted locally. Under the specific headings below an attempt will be made to show how far and in what manner these features have been modified in the most progressive public schools.

I. EDUCATIONAL SPACE

A. Instruction Rooms. The classroom is the central unit around which the school functions. During the school day it is the pupil's home. It should be as cheerful and attractive as possible. Dimensions are given for a class of 40, the present standard; this arbitrary figure represents a compromise between the demands of modern education and those of economy. Classrooms should be grouped according to the age of the pupils: (1) Kindergarten and younger, (2) primary grades (I, II and III), (3) intermediate grades (IV, V and VI).

1. *Kindergarten:* Usually the best-designed room in the elementary school. Location ground floor, south. Lavatories and toilets for kindergarten use only are required; they should open off the main room. Separate outdoor playground also required, preferably opening directly from main kindergarten. Separate entrance recommended. Storage room 300 to 400 sq. ft. required. Small workshop, 200 sq. ft., desirable; alternative, folding partition. Bay windows, alcoves, nooks, fireplace, and window seats recommended. Approximate dimensions 23 x 40 ft. or larger if small rooms are omitted; 30 sq. ft. per pupil should be allowed. Windows on two or three sides; sills low. Floors linoleum. Aquarium, sand box, individual cupboards, and generous storage space built in. Little blackboard; much display board (cork). Care must be taken to make plumbing fixtures, window

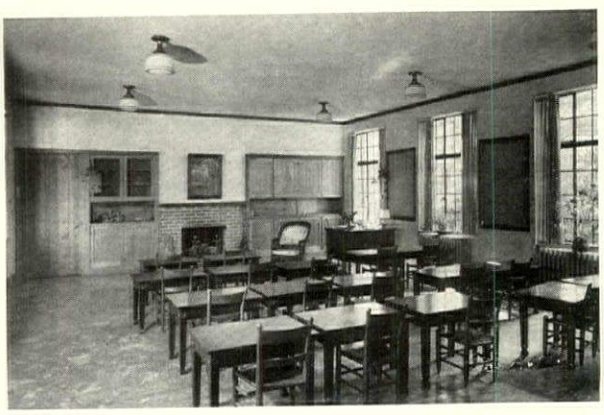


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Kindergarten



Work Shop



Classroom



Henry Fuermann & Sons

Music Room

seats, cabinets, display boards, etc., low enough.

(a) *Nursery School:* Still very rare in public schools. In general similar to kindergarten except that provisions for sleeping and serving hot meals in the rooms must be made.

2. ***Primary Grades.*** The kindergarten may serve as a better model for these rooms than the usual institutional type classroom. Approximate dimensions 23 x 30 x 12 ft.; minimum of 16 sq. ft. per pupil; 20 or more recommended. Light usually unilateral for reasons of economy; windows on opposite sides desirable when fixed desks and seats are not used. Windows one-fifth to one-quarter of floor area; sills low enough for seated child to see out; heads at ceiling. Floors preferably linoleum; second, hard maple. Separate coat room 5 ft. wide at rear of room may be used, or flush wardrobes. The latter long with storage cupboard and drawers, bookshelves, files, teacher's closet, ventilation duct, and lavatory, are usually built along the corridor wall to form the interior classroom wall; the door then can open out without obstructing the corridor. This plan leaves the partititions between classrooms free for easy alteration. Clock, radio loud speaker, individual cupboards, display boards, and blackboard, are standard equipment. Bottom of blackboards 24 in. above floor; 36 in. wide. Blackboards may be of slate, enameled metal, glass, artificial stone, fiber and board, or plaster; first three preferred. Translucent window shades may be of three types; double-roller, accordion pleat, or Venetian blinds; opaque shades also required in most cases, for slides and movies. Artificial lights should supply a minimum of five foot-candles on pupil's tables; ten or twelve is recommended. Artificial lights should supplement daylight without causing confusing shadows. Direct lighting in enclosed bowls is commonly used; six 150-watt fixtures 9 ft. above the floor are sufficient.

Classrooms for "activity program" should be one-fifth to one-quarter larger, preferably partitioned off. Doors leading directly outside are highly desirable. Sheltered nooks on the school grounds may be utilized for outdoor classes whenever the weather is favorable. Each room usually has its own garden. Separate lavatory and toilet are recommended, as in the kindergarten.

3. ***Intermediate Grades.*** Same as primary except that there is less need for separate toilet and workroom, since the activity rooms are used principally by these grades.

B. Activity Rooms. In every school there are besides the classrooms certain special rooms. The

Changes in educational methods have brought about changes in the architectural treatment of classrooms. Fixed seating has given way to flexibility; coldness to a warmth of treatment that suggests home or club; formality to informality

number and type will vary with the curriculum. These rooms usually combine objects of instruction with a place to work.

1. ***Library.*** Most important of these rooms. Central location. Should be made as attractive as possible. Capacity about one-tenth school population; 25 sq. ft. per pupil. Book shelves on all walls up to 6 ft.; estimate five books per pupil, eight books per foot of shelf. Floors cork or linoleum. Windows on two or three sides.

Small conference rooms immediately adjacent to the library are highly recommended.

2. ***Nature Study.*** May be typical classroom with window boxes, aquarium and exhibit cases. Southern exposure. Work tables and storage space required. Window boxes and tanks should have drainage connections; a sink and hose connection are required. Such animals as can conveniently be kept indoors are often included.

An important part of the nature study work is carried on out of doors. The school gardens, including the pupils' gardens, the school grounds and nearby parks are frequently visited. Often pets and other animals are kept in the school yard.

3. ***Science.*** About size of classroom. Demonstration table with sink, gas and electric outlets, work benches similarly equipped, display cases and cabinets and considerable storage space are required. This room may be combined with the Nature Study Room.

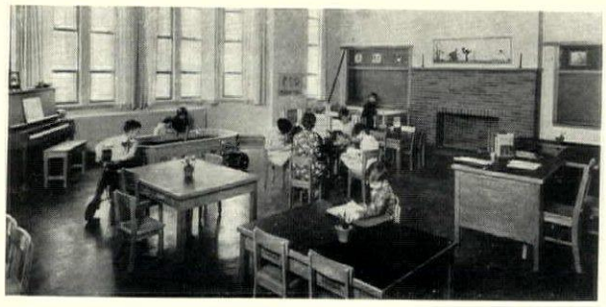
4. ***Art.*** About one and one-half times size of classroom. Soft wood or cork walls for display. Individual cupboards, sink and much storage space required.

5. ***Industrial Arts.*** One and one-half times size of classroom. Lumber rack or store room, glue heater, sink, paint cabinet, soldering equipment, potter's wheel, gas range and cooking utensils, sewing machine, paper cutter, printing press. This room is the general shop. It should be accessible to the stage since much of the scenery, property and costumes will be made here. Sound insulation. Fire hazard.

6. ***Home Economics.*** About classroom size or larger. Should contain three or four unit kitchens, each with sink, stove and cabinet and dining table and chairs. Broom closet, refrigerator, laundry tray, clothes dryer, ironing board, individual cupboards for sewing kits.

7. ***Other Special Rooms.*** May be for music, literature, social science, expression, for neutral or physical defectives, for specially gifted children,

The classrooms shown on both pages are from the Avery Conley School, Downers Grove, Ill., Waldron Faulkner, Architect, except the work shop and the primary grade classroom, which are from the Ann Kellogg School, Battle Creek, Mich., Albert Kahn, Architect



Primary Grade



Library

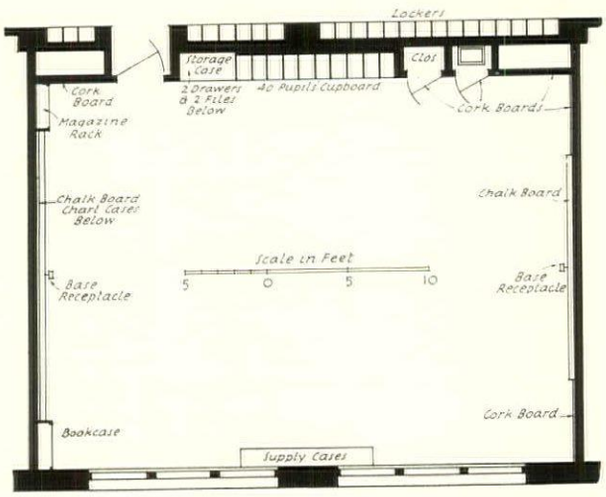


Art Room

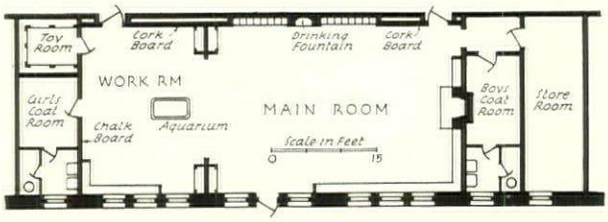


Chicago Architectural Photo Co.

Classroom



Elementary classroom type, Samuel Hannaford & Sons, Architects. Increased area is provided by placing locker room facilities in the corridor, thereby making available for use the area usually devoted to cloakroom within the classroom



Typical kindergarten classroom type, long and narrow, which with the semidivision of the space into a workroom and main room, makes simple the carrying out of small group projects without disturbing activities of other small groups

typewriting, health, etc.

8. ***Auditorium.*** Usually seat entire school population, but should not exceed 700. Size, plan and equipment will depend upon use. Many elementary schools now use auditoriums for pupil activity almost continuously. Plays, often written by the students, are produced as frequently as once a week; costumes and sets are designed and executed by the children. For such use the auditorium should be small (500 seats maximum), but the stage and back-stage large. Group dressing rooms, with adjacent lavatories and toilets will be needed. Full stage lighting and scene loft are not needed unless desired for community use. Standard projection booth and sound screen required; projection booth and auxiliary rooms must conform to local laws. Fan-shaped seating best; allow 7 sq. ft. per pupil floor area; seats in front smaller for primary grades. Stage 3 ft. above auditorium floor; softwood or linoleum. Proscenium should be one-half to three-quarters width of auditorium. Steps at both sides of stage. Auditorium should be treated architecturally like a little theater; ostentatious and meaningless ornament should be avoided. Acoustical treatment for ceiling required; preferably for walls also. Heavy draperies at windows serve as opaque curtains and as sound absorbents.

Great care must be taken with the auditorium circulation, particularly if it is planned for community use. Complete evacuation in two minutes should be possible. Unless a separate entrance is provided, the auditorium should be located directly opposite the main door. Lavatories and toilets and a coat room must be provided near the entrance of the auditorium if community use is planned; drinking fountains and telephone booths are advisable.

II. RECREATION SPACE

A. Playroom. Size and character will depend upon local conditions. With favorable climate and spacious grounds it becomes club or general social room. In the North and in cities it may be a small gymnasium. Principal use to supplement playground in bad weather. About one and one-half times size of classroom. Linoleum or asphalt tile floor; acoustically treated ceiling. Should open directly outdoors to playground.

Such a room has many alternative uses. Often a small kitchen is supplied adjacent to it and school lunches are served there. The room can then be used by the community for banquets, dances, parent-teacher meetings, card parties, etc.

B. Playground. Minimum of five acres needed for building and grounds. Carefully laid out for maximum use and separation of age groups. Floodlights for community use. Lavatories and toilets must be easily accessible; drinking fountains should be on the grounds. An open shelter is desirable. Baseball diamonds may be 75 ft., basketball courts 60 x 35 ft., tennis 36 x 78 ft., volley-ball 50 x 25 ft.; handball, soccer, hockey, track and ice skating may also be provided for. Cement, turf, asphalt, clay surfaces used, according to game and local conditions.

C. Gymnasium. Except in congested urban districts affording insufficient recreation facilities outside of school, a gym is not needed in an elementary school. If used, it should, like the playroom, be convertible practically into an open-air shelter. Minimum size 40 x 60 x 16 ft. — 30 sq. ft. per pupil. Floor wood block, linoleum or maple; wainscot wood or cork or glazed brick. Showers, lockers, toilets, lavatories and drinking fountains are usually provided with a gymnasium; often towel room and drying room. Circulation must be carefully studied to avoid congestion. Locker room area should equal gymnasium floor area and should be as light as classrooms. Lockers should be set on a continuous platform containing the heating pipes. Four feet minimum space between rows of lockers. Bench

between, pipe support. Floor cement, pitched to drain. Shower rooms: figure 4 sq. ft. per pupil. Southern exposure, light. Small towel room at exit from showers. Drying room: 2 sq. ft. per pupil; floor drain. The athletic director usually has an office near the gymnasium; otherwise it is part of the medical suite. A storage room for gymnasium will be required.

D. Swimming Pool. Exceedingly expensive — justified in elementary school only when wanted for community use. In this case a separate entrance to gymnasium and swimming pool should be provided; also probably a larger gymnasium and bleachers of spectators' gallery. A room for filters and pumps must be supplied; also a laundry and sterilizing room for towels and suits.

E. Cafeteria. Needed only in rare cases, such as rural schools and very large schools. Nine square feet per pupil. Linoleum floor, acoustical ceiling. Serving room separate from dining room. The teacher's dining room may be partitioned off. Kitchens are usually planned too large, according to restaurant experts. Dishwashing and storage rooms and a dietitian's office may be needed.

III. ADMINISTRATION

A. Health Suite. May be one room or several, depending on size of school. There is usually a full-time nurse; a room 15 x 25 ft., part partitioned off as waiting room, should serve the needs of the average school. In this room or elsewhere there should be a dentist's chair, operating table, sterilizer, hose-operated sink, shower, lavatory and toilet, cabinets for medical supplies, scales, three-leaf mirror, couches and screens. The physical examination room should preferably be separate so that it may be kept at a higher temperature; dressing booths should be supplied in it.

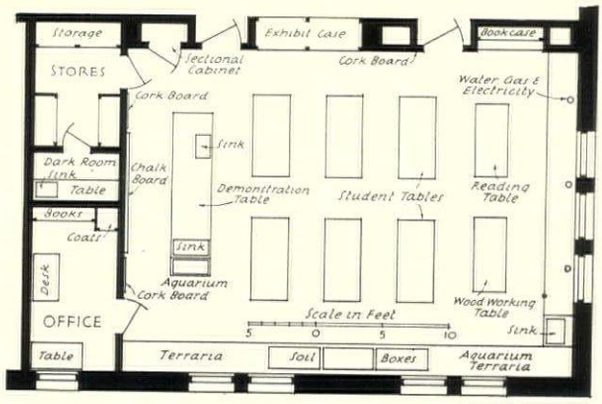
B. Offices. (1) *General Office:* Separated from waiting room by counter. Approximately 16 x 14 ft.; latter about 8 x 14 ft. (2) *Principal's Office:* Adjoining general office — about same size — private lavatory, toilet, and coat closet. (3) *Other Offices:* The very large school may need more administrative offices, for assistant principal, visiting teacher, psychologist, attendance, statistics, curriculum, etc.

C. Teachers' Rooms. (1) *Rest Room:* 14 x 24 ft., lavatory and toilet adjoining; (2) *Dining Room:* about same size — kitchenette; (3) *Conference Rooms.*

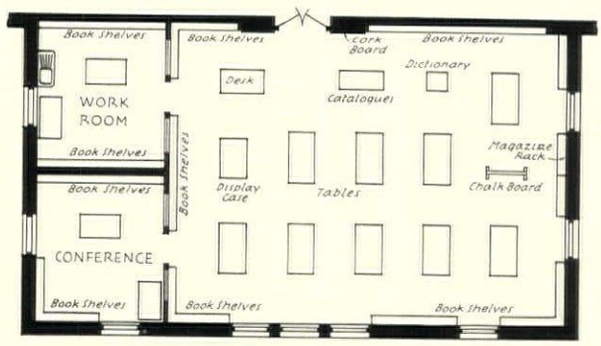
IV. SERVICE

Essentials of circulation and services are:

1. ***Corridors:*** Minimum width 8 ft. 6 in., 10 ft. recommended. No projections, radiators, lockers, drinking fountains, fire extinguishers and exhibit cases recessed. Well lighted; natural light if possible (cf. Modern German schools with glass-enclosed stair towers); three foot-candles minimum. No dead-end corridors. Acoustic treatment. Terrazzo floors standard; alternatives: linoleum, rubber, stone tile; asphalt tile. Display cases should have glass shelves and concealed toplights.



Elementary school library type worked out by Eleanor M. Witmer, Columbia Teachers College librarian. It includes the essential workroom and conference room, and is suitable in varying dimensions for most elementary school libraries



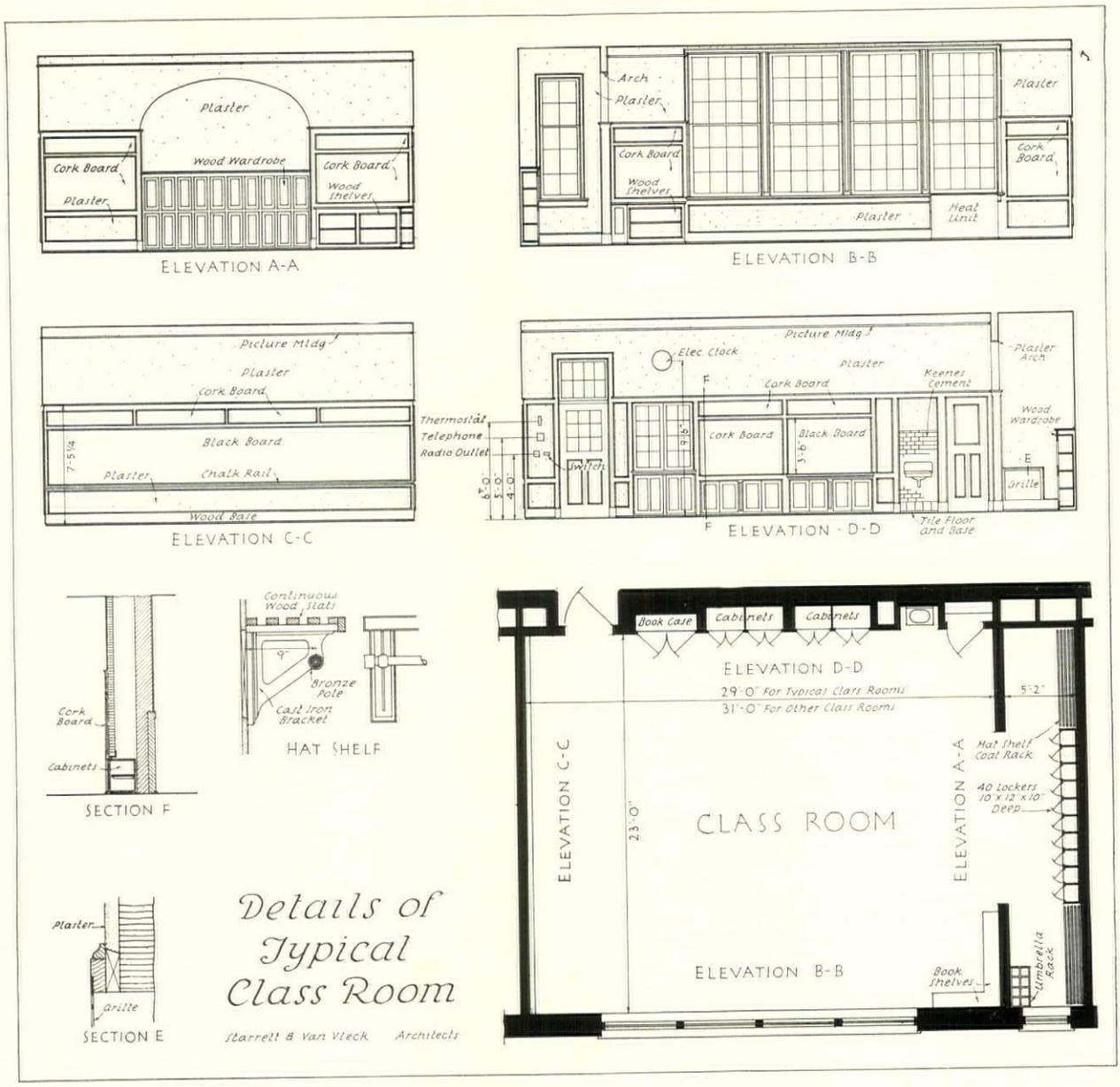
Developed at State Teachers College, Stroudsburg, Pa., this typical elementary school science room is an efficient form for housing the usual scientific activities of a small school, emphasizing with two exposures the use of natural light

2. ***Stairs or Ramps.*** No classroom door should be more than 100 ft. from a stair. Two stairs widely separated are the minimum for even smallest school. Minimum width 50 in.; recommended 60 in. Two runs between all floors. Seven inches maximum riser, 10½ in. minimum tread; 6 x 11 in. recommended. Non-slip treads. Handrails at two heights on both sides. Exit signs and stair and corridor lights on emergency system. Direct exit for every stair. Evacuate building in three minutes.

Ramps desirable but take excessive space. Same width as stairs. Grade one to ten.

3. ***Lavatories and Toilets.*** Well lighted. Sanitary. Vitreous tile. Stalls enameled metal, inswinging doors. Fixtures at correct height for children.

4. ***Heating and Ventilating System.*** The leading method in use today for elementary schools seems



With as much built-in equipment as can be included in the space, Starrett & Van Vleck have evolved a classroom type that offers the maximum activity area for the size of the room. It is further noteworthy for the logical arrangement of cupboards, bookcases, magazine rack, pupils' lockers and other essential classroom accessories

to be direct radiation with forced air ventilation ("split system") or unit ventilators in each room. Warm air is used for gymnasium and auditorium. Radiators are usually recessed under windows, with shields. Small schools can do without mechanical ventilation entirely. Air filters are necessary in many urban schools. Humidity control is desirable.

Boiler room and fuel storage rooms should be isolated with fire walls and doors.

A small office may be needed for the engineer.

5. ***Cleaning System.*** Central vacuum recommended — 50 ft. maximum between outlets; latter 2 in. inside diameter. A head custodian's office near the service entrance is suggested. Lockers, showers and toilets for the janitors must be supplied.

6. ***Fire Protection System.*** Two hundred feet maximum distance to fire alarm box from any point in building. Sprinklers and automatic detectors. Alarm may be oral instead of gong.

7. ***Storage.*** (a) Books. (b) Supplies. (c) Furniture and Equipment. (d) Cleaning Equipment. (e) Audio-visual Equipment. (f) Bicycle Room.

8. ***Garage:*** for rural schools.

9. ***Repair Shop:*** general maintenance.

10. ***Parking Space:*** for community use of school; lighted.

"HORS de CONCOURS"

WITH KENNETH MURCHISON

WHEREAS and whereto, pursuant to Title I of the National Industrial Recovery Act, hereinafter referred to as NRA (or as the boys say, NRA to you) every architect has been tapped for membership, and must do whatever business he may have under a code;

And whereas I don't fancy some of the provisions that Stanley Parker and his crew of Mussolinis have prescribed for the rest of us, I have drawn up a code for myself and for any other survivors of the fast diminishing race who once proudly called themselves "rugged individualists." All you have to have is a character endorsement from William Randolph Hearst or Henry Ford to qualify.

And also whereas, like Hugh Johnson, I expect to have a large assortment of "dead cats" thrown at me, notice is hereby served that no cats will be returned unless accompanied by return postage. I'm going to make a winter overcoat out of them.

DEFINITION OF ARCHITECTS

The word "architect" as bandied loosely about in my code means a congenial kind of person who abhors hard work, who is down to his last coppers, who doesn't know where the next job is coming from, and who, more or less, doesn't give a damn. If that doesn't describe 95 per cent of us, something has happened to our old traditions.

ARCHITECTURAL PRACTICE

An architect's practice consists of the following:

Getting to the office practically *hors de combat*, a victim of that professional custom known as "Let's have one more and then go."

Throwing the mail in the basket.

Calling up the friends of yesternight to see how they're doing.

Sharpening pencils.

Thumbing pages of latest issue of my favorite architectural magazine. (I wrote THE ARCHITECTURAL FORUM in here, but General Johnson cracked down on me. I would have cracked him back, but I'm still recovering from the Huey Long episode.)

A concentrated session at the board with the following results: rough sketches of a dog, of a nude in rocking chair, the same nude with two legs and one rocker missing, three sets of figures in three attempts to discover where the money went from that last check (best recollection still $18 short).

Luncheon recess, two hours, except for Southern architects, who suh, know how to take their leisure.

Detour on way back to office to look in at latest exhibition. (Alternates according to taste, a game of Kelly pool at the club, a brandy.)

Calling up client to learn any one of the following: (1) still can't get the money, (2) changed his mind, (3) another architect (a brother in NRA) had swiped the job.

Back to the board, and just as brilliant solution is breaking through the fog, it's time to quit. Good old NRA!

REQUIRED PROVISIONS FOR DRAFTSMEN

It seems to me that all provisions about draftsmen are rather pointless. What we need is regulation of partners. We were pretty big-hearted to take them in at all in the first place; they don't earn their salt or your bread and butter; they never have friends who are prospects, and they borrow too much money from you.

But for the benefit of anybody who still has a draftsman working for him, here are the regulations for him.

MINIMUM WAGES

I leave this provision blank in my code. There's altogether too much talk about wages anyhow. Architecture is a fine art not a business, and if you know anyone who wants to trade some of my fine art for a small well-paying delicatessen, I am, as we used to say, his huckleberry.

In connection with minimum wages, I am reminded of the story of the draftsman, father of seven children and only support of his father-in-

law, who went into Harvey Corbett's inner sanctum to complain about the low wage he was receiving — (when he got it).

His tale of distress would have moved most of us to large pear-shaped tears; but not Harvey. Finally the draftsman looked up at the great man and said, "Well, I have to eat, don't I?"

Said Harvey, "Not necessarily."

Note: This story was first used by Ghengis Kahn, then by Benvenuto Cellini, and lately by Ed Wynn, Burns & Allen, and Joe Cook.

MAXIMUM HOURS

No draftsman shall be permitted to work more than 84 hours in one week, except when a nice, kind, inconsiderate client wants two months worth of drawings in a week, and then you can work them until the milk wagons rattle around. Pillows must be provided by employers so draftsmen can crawl up on the tables and catch not more than 40 winks. Draftsmen should be reminded that Edison only slept 3 hours, and don't they want to be Edisons? No? Well, you can't blame them.

But there's nothing like developing a taste for hard work in the boys. Why, when I was earning my spurs and stripes, I used to think nothing of working day and night for months at a time. I still don't think anything of it. In fact, I think so little of it that I wouldn't dream of doing it myself.

UNFAIR COMPETITION

It seems unbelievable that such nice people as architects should attempt to cut each other's throats, but I've heard rumors that the knife has now joined the T-square and triangle as a symbol of the profession. It must be some of the new school architects, for I know none of the old school would do anything like that. We members of the old school wouldn't do anything that wasn't cricket. Now there's a game for you — cricket. Cricket on the hearth, we used to call it in our Beaux Arts days.

Well, to get back to the ideals. After all, we're brothers in the great architectural fraternity, and we must have ideals. Where would we be if we had no ideals? Where would we be if we didn't live up to them? Where are we anyhow?

As for these rules of unfair competition, I hope none of my intimate friends will interpret them as personal insults. Of course, if the shoe fits, it must be your shoe.

It shall constitute unfair competition to:

1. Cut your fee except when the prospect is actually leaving the office unsold — and then business is business.

2. Grow a beard. Architects with beards, like little Dwight Baum, have a big advantage over the rest of us — especially with the ladies. They think it's so primitive.

3. Condemn a competitor's work. A little damning with faint praise is perfectly all right. How could you stop it?

4. Marry the daughter of big property owner, insurance company official, or banker.

5. Use your wife to pump the wives of other architects.

SPECIAL FAVORS

The schedule of tokens of appreciation, palm greasing, or whatever you may call it in your locality that an architect may receive from a manufacturer or contractor shall be: For Eastern architects, three cocktails and $1.25 lunch; for Southern architects, four cocktails and no lunch; for the big eaters of the Middle West, two straight whiskys and a $2 dinner; for Boston architects, three cups of tea.

And vice versa applies to architects entertaining prospects.

It shall further be regarded unwholesome for architects to promise a drafting job to the dumb nephew if Uncle Harry comes through.

BIDDING PROCEDURE

To eliminate this vicious practice of bid peddling, the Murchison schedule of prices will be in force. It will be considered unfair, in fact, very low down, for an architect to obtain more than six prices from a contractor. These shall be known as: (1) lowest price, (2) rock bottom price, (3) way below cost price, (4) sacrifice-to-keep-the-plant-running price, (5) you-ought-to-be-ashamed-to-take-it price, and (6) I'll-go-broke-doing-it price.

Conversations like the following are unethical:

"Now, listen, Joe. I like you, and I like your material. I want to use it on this job, but your price is way out of line. Of course, I can't tell you what the Atlas Hollow Marble price was, but I will say that the man who gets this contract has to beat $12,000."

Or to carry on a similar conversation with Willie Upshaw of the Atlas Hollow Marble Company.

ADMINISTRATION

I've got too much to do to administer this code. All I do is write them. I'm working on one now for the Century of Progress Building Wreckers. They have to have it right away because they're itching to get to work on it.

Committees shall be set up in each community to interpret these provisions. What a job that will be. The local code authority will consist of one Roosevelt Republican, one Hoover Democrat, a friend of Tony's, and a man whose name I've forgotten, to be known as the forgotten man. And if they ever find Elmer, he can be on it too.

ENFORCEMENT

Enforcement provisions are simple. Take it or leave it!



Estate of Max Epstein, Winnetka, Ill., Samuel A. Marx, Architect

FIRE-RESISTANT RESIDENCE CONSTRUCTION

BY THOMAS R. SHAVER, Engineer

THE residence contains the owner's collection of paintings, including many old masters of great value, and much fine old woodwork. Therefore both owner and architect felt that the matter of fire-safety required special consideration.

On the other hand, the matter of fire-resistant construction involved additional expense. Consequently costs and degree of protection were carefully studied, and the types of construction adopted as a result were those which the studies showed to be most economical. The construction worked out very well, largely due to extreme simplicity. The roof construction, in particular, is unusual. The framing is adaptable to roofs of more simple, or more complicated design than that shown.

General Design. Walls are made of hollow tile with common brick facing. All structural floors are of reenforced concrete joist slabs, the typical construction being of joists 12 in. deep, 6 in. wide and 36 in. on centers. Beams are of the same depth as joists, which simplifies forming, and eliminates ceiling problems due to dropped beams.

Sleepers for attaching wood floors are anchored to concrete by screws into lead plugs in the concrete. The roof construction required considerable study because of the shape of the roof, and the system adopted is a combination of clay tile fillers and concrete ribs, with no top slab except the nailing concrete.

Roof Design. The concrete ribs of the roof are tied in to the intersecting floors (second floor and attic) by lapping and hooking the reenforcing bars. Bars are also lapped at all construction joints, which occur at angles in the ribs and at intersections with the attic floor. The result of the continuity thus secured is small bending moments. All ribs are 10 in. deep. In the wing sections ribs are 6 in. wide and 18 in. on centers. In the center portion where the spans are greater, some of the ribs are 8 in. wide and 20 in. on centers.

Nailing Concrete. This is made 2 in. thick. There is a sheet of light mesh which was fastened to the structure by nail anchors left in the concrete approximately 36 in. on centers in two directions. The mesh and anchors supplement the natural bond between the nailing concrete and the scored tile.

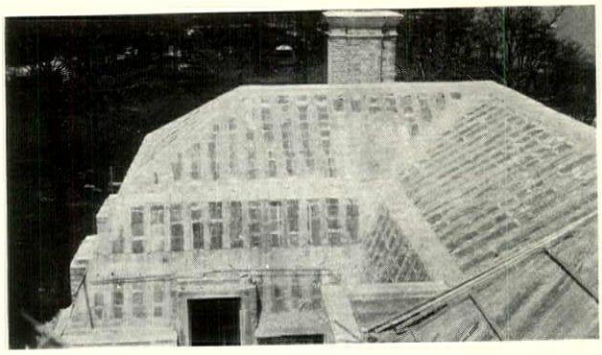
Dormers. Dormers are of 4-inch concrete walls, poured after the main roof construction was finished, and anchored to it by ¼-inch rod dowels provided for that purpose. Dormer roofs are also of 4-inch concrete, and the slopes were formed with nailing concrete.

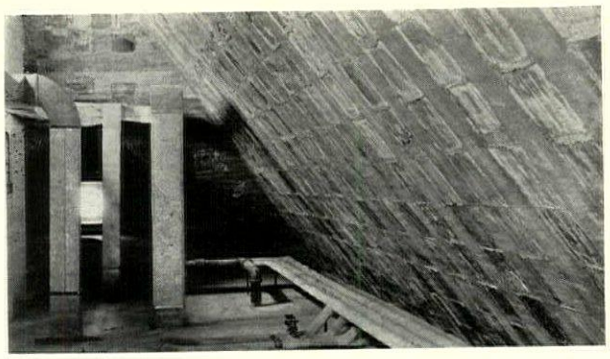
Conclusions. No difficulty was experienced with the construction of this roof, nor with applying the finish materials. The attic is left entirely clear of posts, braces, trusses or other obstructions.

The contractor's estimates for roof construction were as follows:

1. Wood framed construction $3,500
2. Construction used 9,900

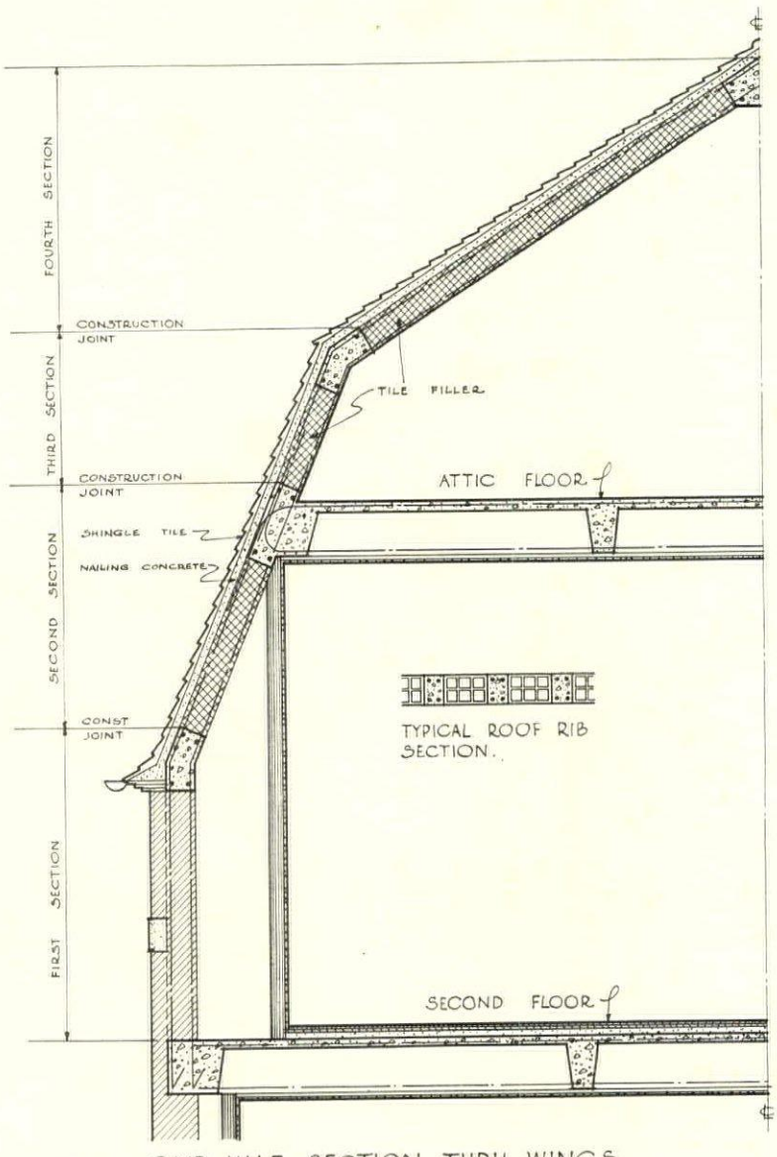
Other framing methods considered, some not equal to No. 2 in fire safety, all ran higher in price.



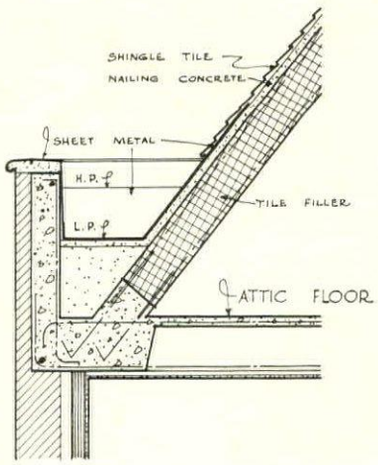


Progress Photographs Showing Simple, Clean-Cut Construction as Detailed Below

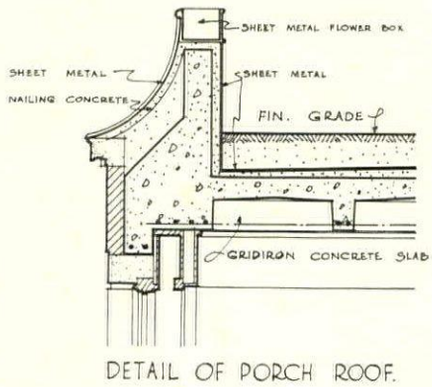
The actual cost of the framing was practically the same as the estimate, according to the contractor's cost records. The extra cost of the construction used, over the cost of ordinary framing ($6,400), is about 41 cents per sq. ft. of first and second floors, and 4½ cents per cu. ft. of first and second stories. It is less than 3 per cent of the total cost of the residence building.



ONE HALF SECTION THRU WINGS.



DETAIL OF PARAPET OF CENTRAL PORTION.



DETAIL OF PORCH ROOF.

MASTER DETAIL SERIES NO. 5

THE FORMAL FRENCH HOUSE

WHAT architect ever returned from a summer in France without books full of sketches and a head full of ideas gleaned from Dijon, Saullieu, Bourges, or some other region rich in architectural heritage? With as many different style distinctions as there are provinces, the chateaus, cottages, and farmhouses of urban and rural France have been a treasury of inspiration.

Formal French houses, born of generations of courtiers and cultivated bourgeoisie leading lives of studied sophistication, are models of perfection in scale and balance. Depending for their effectiveness not upon texture of materials or the charm of surroundings, the houses themselves are noteworthy from the standpoint of pure design, characterized by balanced fenestration and satisfying union of all elements.

Built usually of stone, the exterior surfaces are generally of stucco with stone trim, quoins and bands. Almost always a high stone wall shields the house from the gaze of passers-by. Roofs take various forms of mansard, hip and simple gable. Symmetry of composition is characteristic of these distinguished houses; if not absolute symmetry, a balance at least, attaining with the simplest and most straightforward means a feeling of dignity and suave elegance. It was the architectural expression of an organized and conventional society, cultured and sure of itself, aristocratic.

Characteristic details of the style are marked by a very definite harmonious relation with each other, with emphasis on the composition of the whole achieved through subordination of detail.

Wall surfaces are simply treated, the comparatively large areas serving as foils to emphasize the fenestration; stucco, brick or stone is left to its own beauty as wall, with the windows and doors enframed in sharp-edged stone. The openings, symmetrically placed and subtly proportioned, are relied upon for the composition of the facade. Dormers are related to the windows below them, frequently carrying the wall surface up, breaking the cornice line. Quoins and flat belt courses, and occasionally vertical panels, are used with restraint, always related to the openings, emphasizing the pattern.

Windows depend for their enframement on the change in material from wall to jamb (brick or stucco to stone), rather than on the shading of moldings. Where moldings are used as enframement, they are usually simple and restrained. Nothing is done to destroy the sharp crisp lines of the shadows of the deep reveals. The window shapes vary, of course, but the tall rectangle predominates. A slight segmental arched head is also used effectively, and for minor windows circular and oval forms frequently add to the interest of the composition.

Casements, inward opening as a rule, are universal. The casements are usually one or two lights wide, and the glass size therefore comparatively large. The casement hardware, both from an operating and an artistic point of view, is important, especially as the casements are high and frequently extend to the floor. This characteristic also accounts for the many exquisite wrought iron balconies and grilles of flowing scroll design.

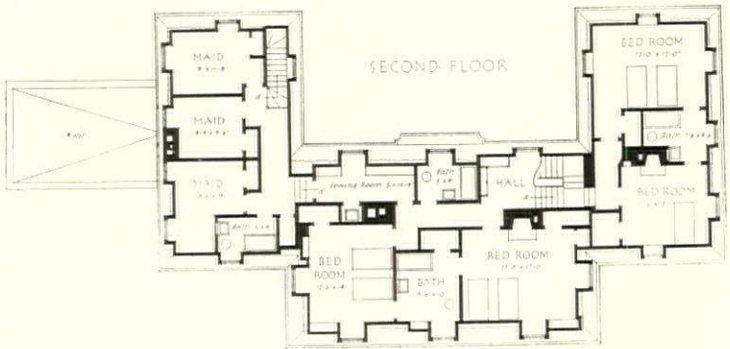
In contrast with the simplicity of the walls and the sharp directness of the opening is the finely studied contour and curve of the woodwork of the doors. Here fine detail and subtile molding profile could be seen and appreciated, preparing one for the change in scale of the interior decorative treatment and the delicacy and refinement of the furnishings.

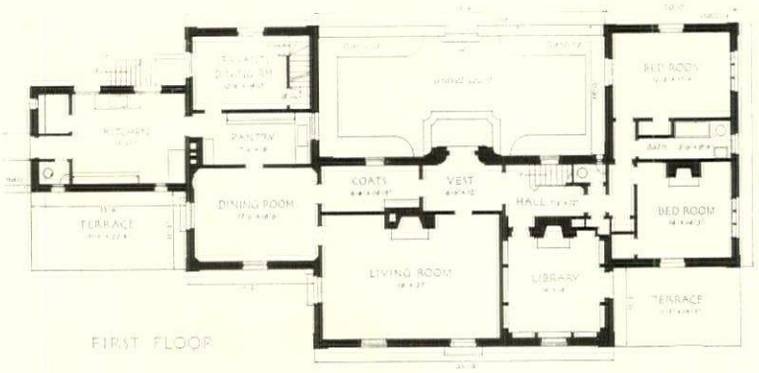
IN ITS November issue, THE ARCHITECTURAL FORUM inaugurated its series of Master Details, adopting as a policy the presentation of buildings and their significant details grouped according to their style derivations. Four classifications of houses were published last month — New England Farmhouse, One-story Colonial, English Half-timber, and Modern. This month we add American versions of the French house.

Regular issues of THE FORUM will show residential details in this Master Detail Series, and Reference Numbers, now published six times a year, will offer details related to the subject of the issue.



All photos, Richard Averill Smith

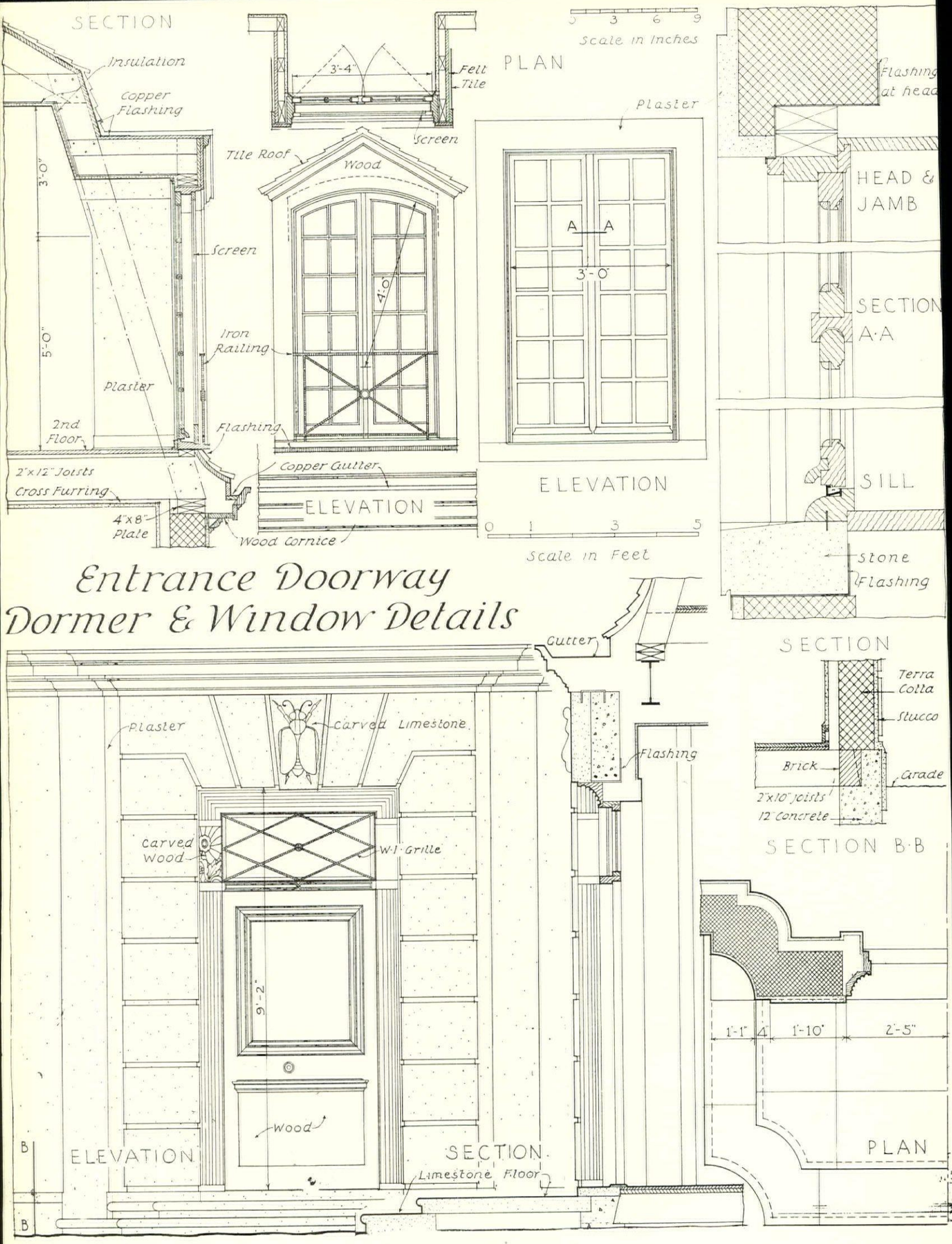




That a house may be formal and yet have an intimate and distinctive character can hardly be questioned if one considers such a house as this. Frigidity is not synonymous with formality for here we have grace and charm in a house entirely balanced and symmetrical in design. The forecourt is as friendly as it is typically French. Throughout, the detail is restrained yet spirited, simple but sophisticated. F. Nelson Breed, Architect, Charles F. Fuller, Adolph M. Dick, Associates

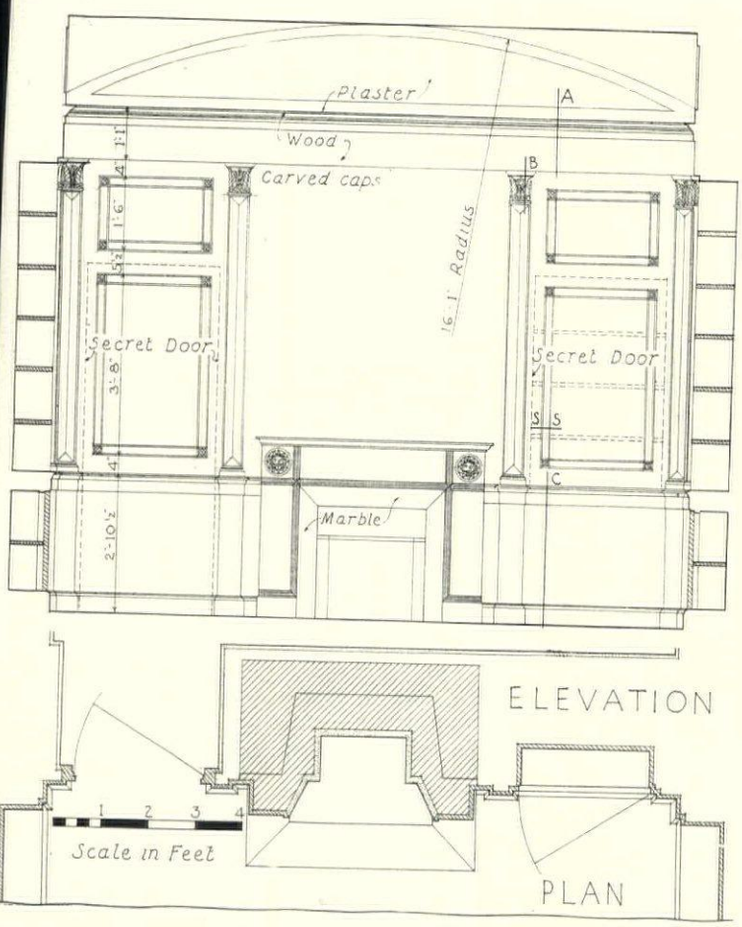


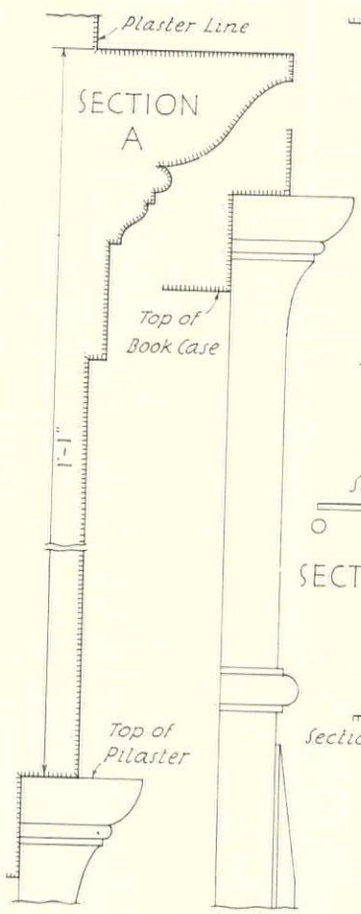
HOUSE IN BEDFORD VILLAGE, N. Y. . . . . F. Nelson Breed, Architect

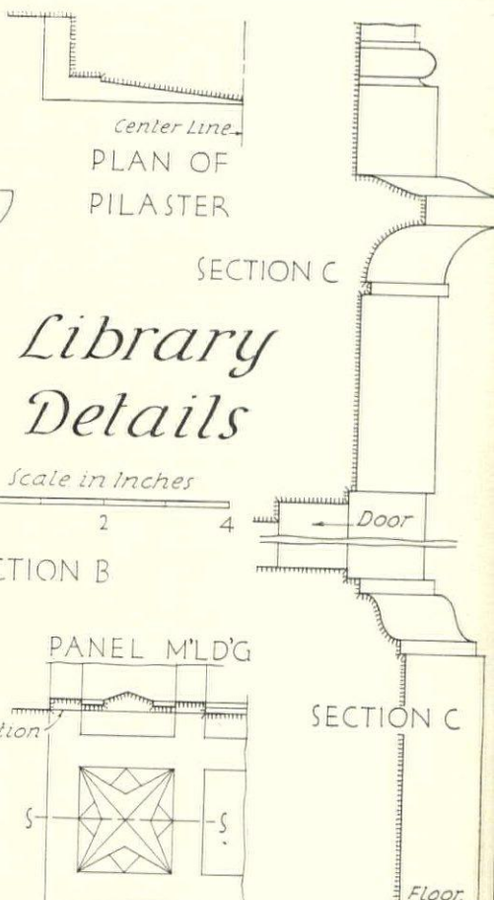


Entrance Doorway Dormer & Window Details









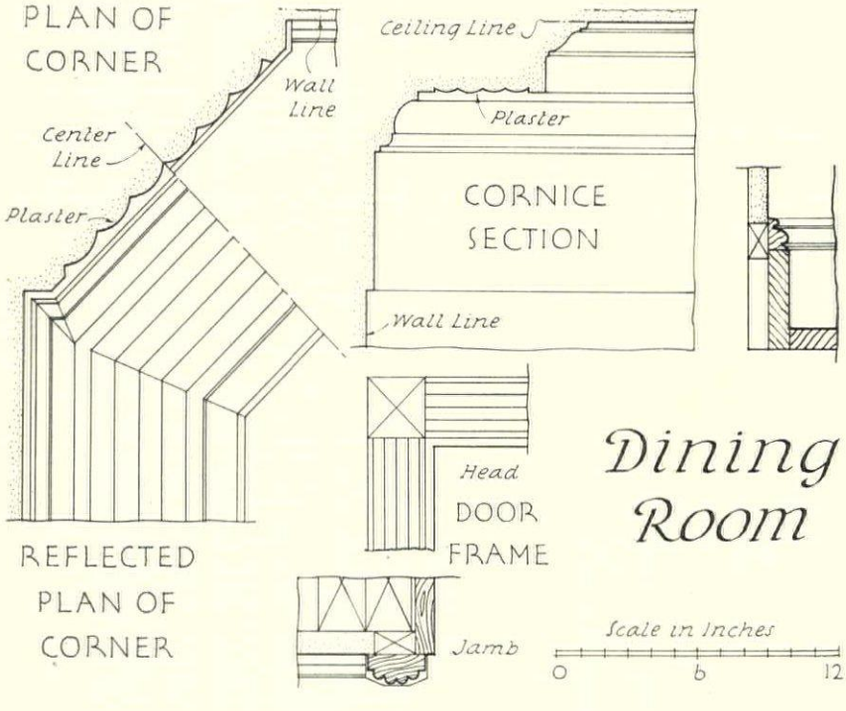
Library Details

Scale in Inches
0 2 4



F. Nelson Breed, Architect

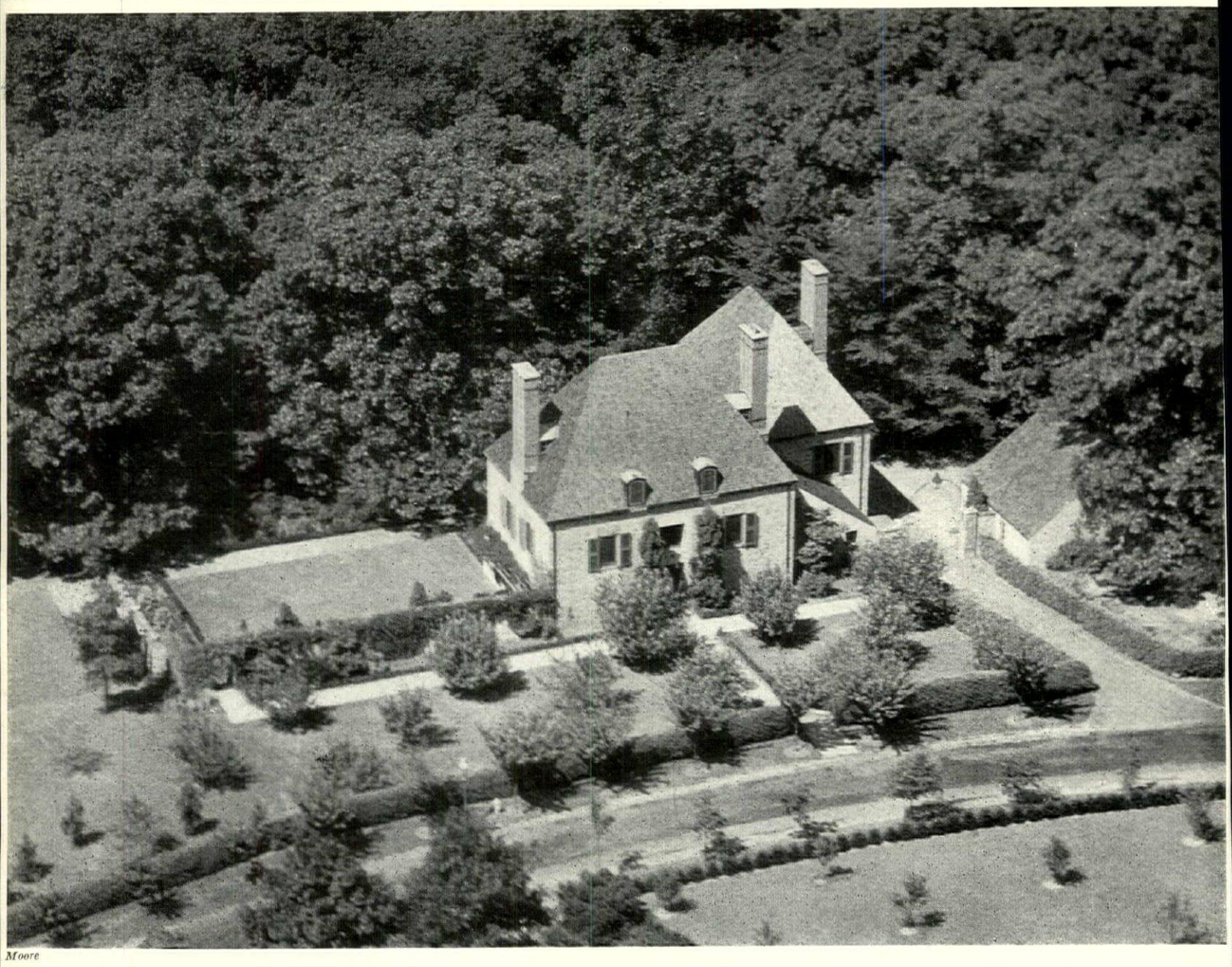




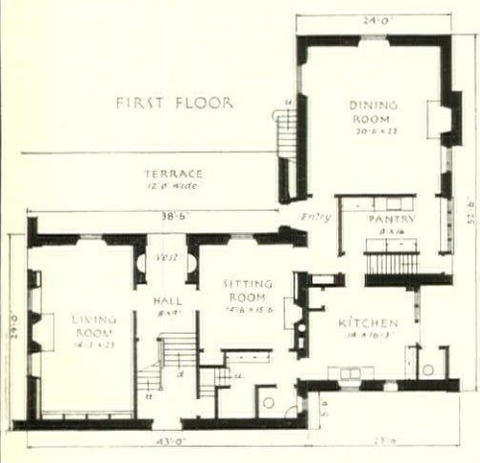
Dining Room



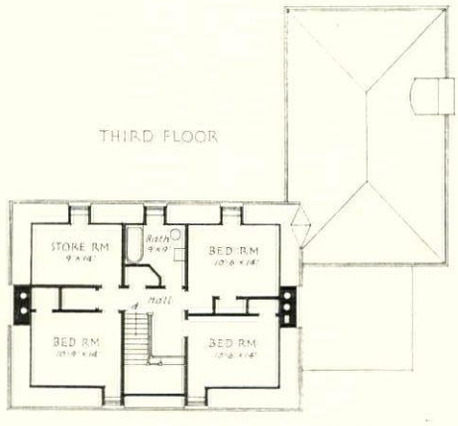
HOUSE IN BEDFORD VILLAGE, N. Y. . . . . F. Nelson Breed, Architect



Moore





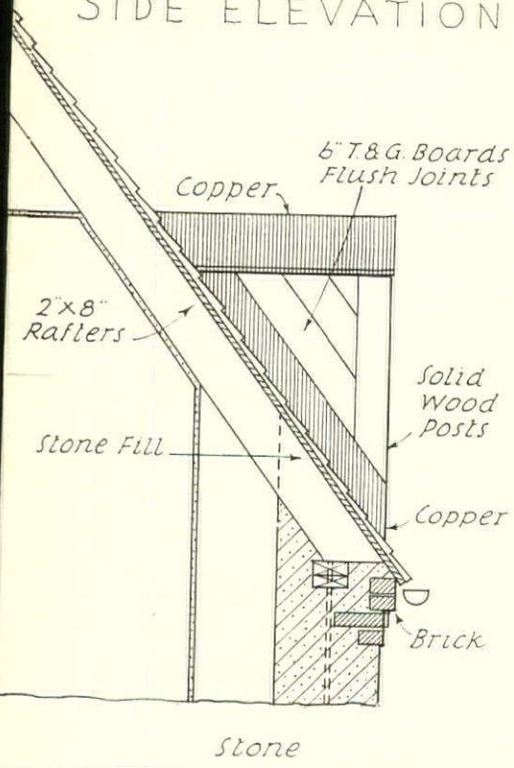


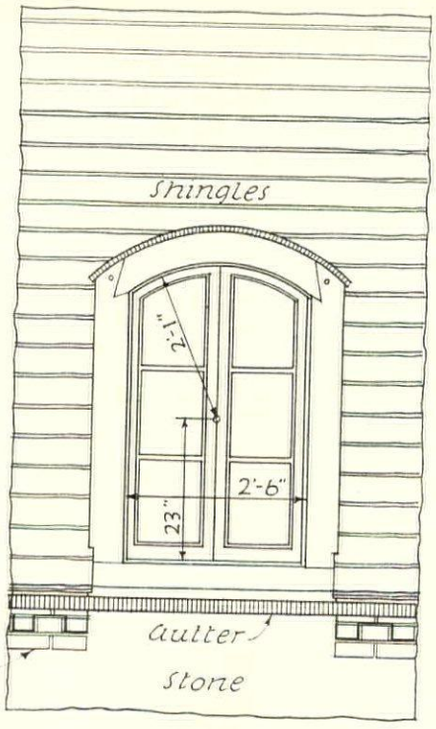
The adaptability of the French house to American living conditions, sites and climate, is well illustrated in this house in Germantown designed by Mellor, Meigs & Howe. The house and its entourage form a unit in which each part contributes to the expression and the functions of well-rounded but unostentatious living. Dignity is gained through the simplicity and directness of this understanding adaptation of the style. Quiet charm results from the sympathetic use of materials and the rightness of unlabored form and detail



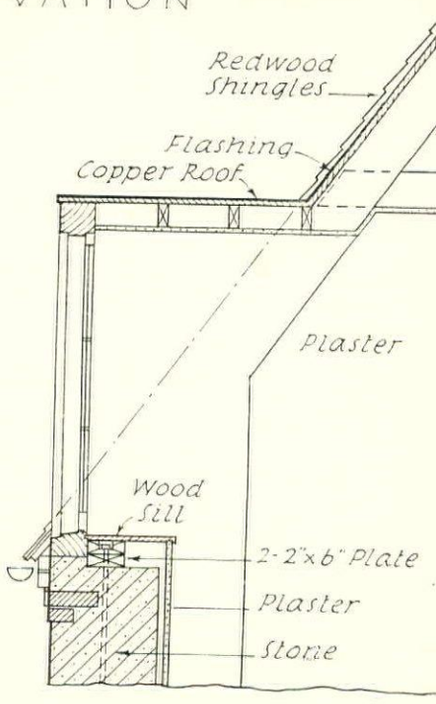
Mellon, Meigs & Howe, Architects

SIDE ELEVATION

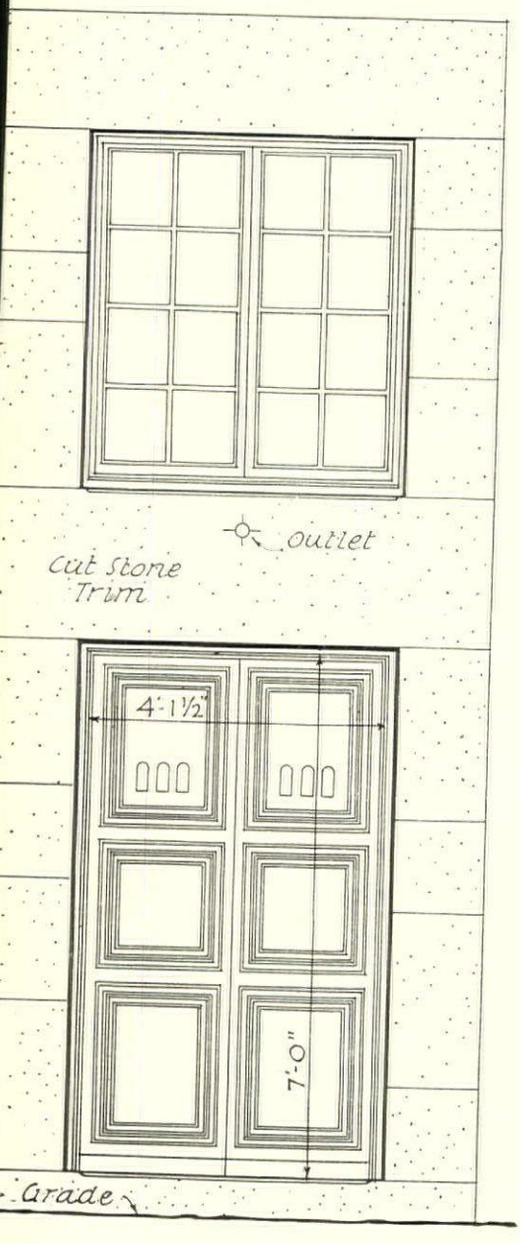




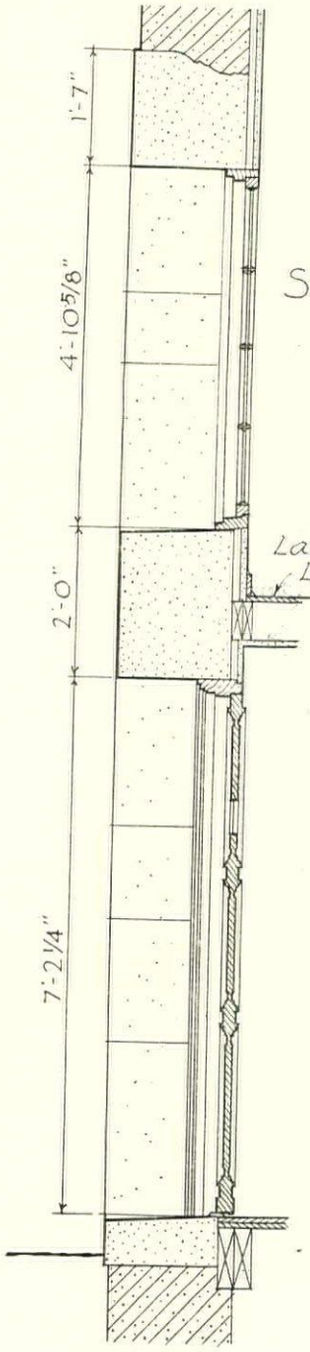
ELEVATION



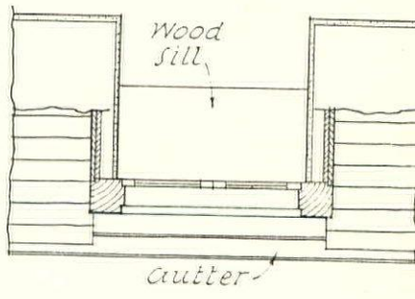
SECTION



ELEVATION



SECTION

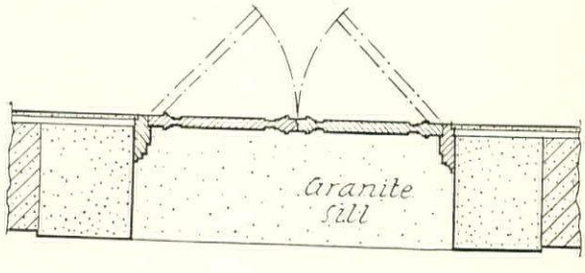


PLAN

Entrance Door & Dormer Detail

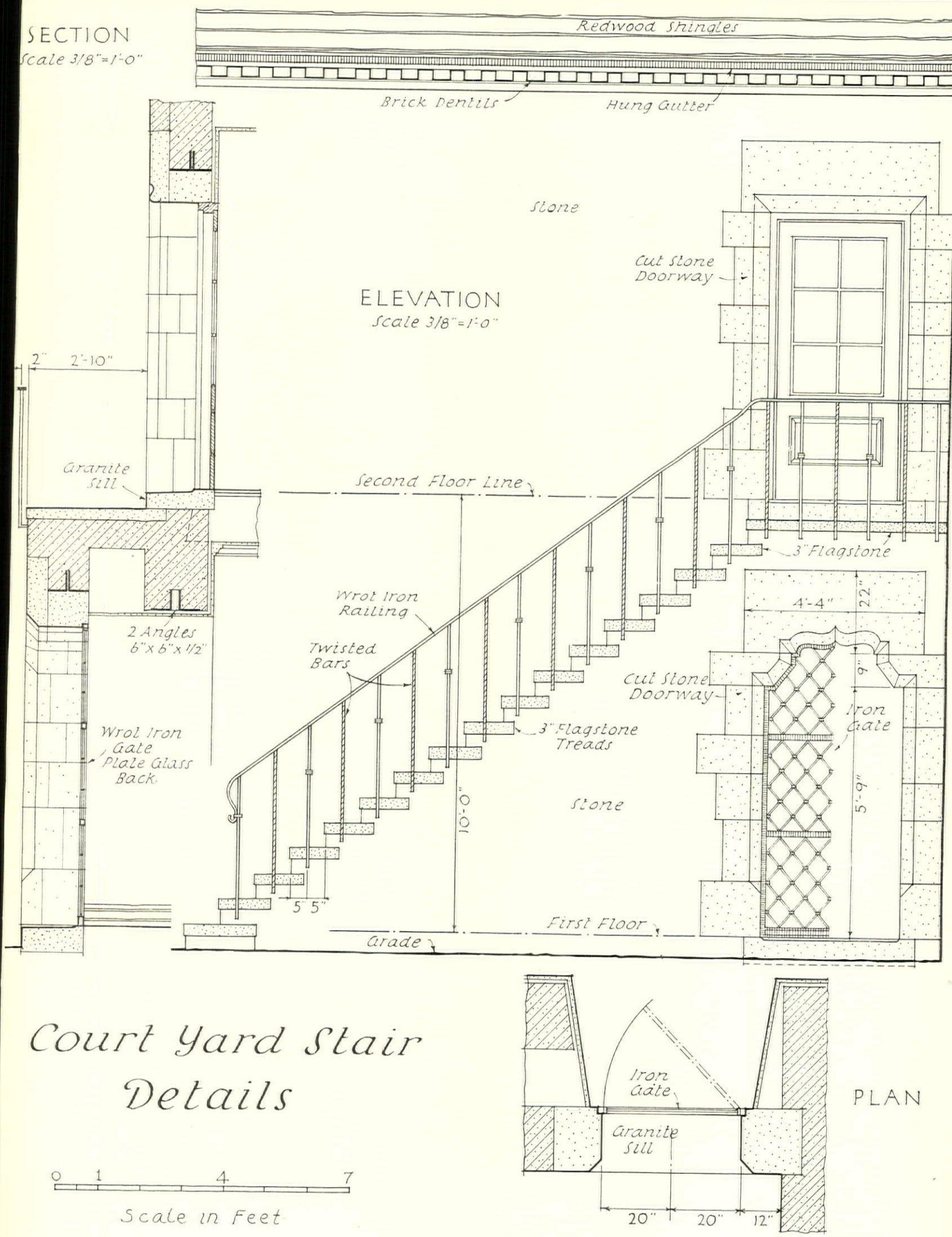
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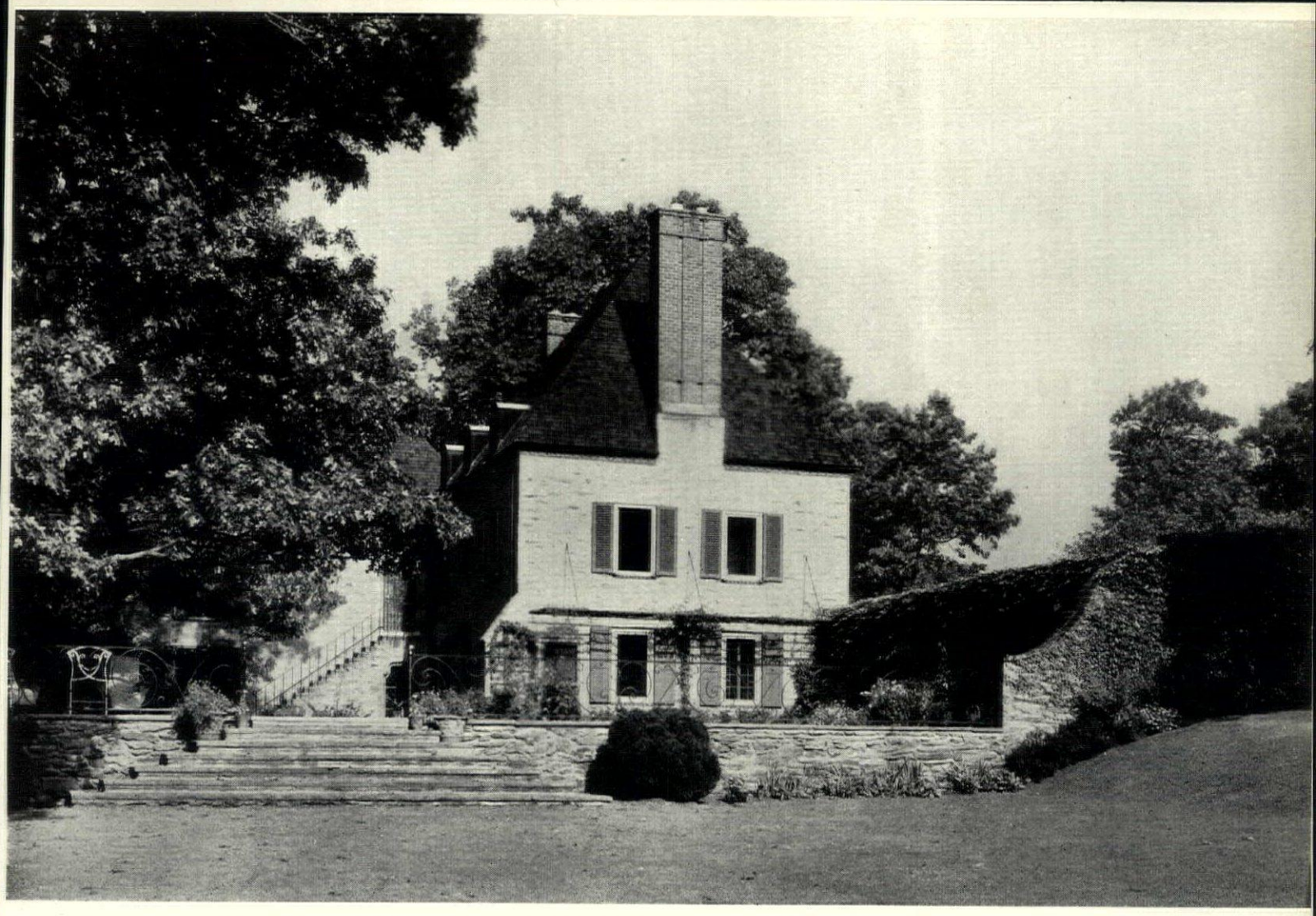
Scale in Feet

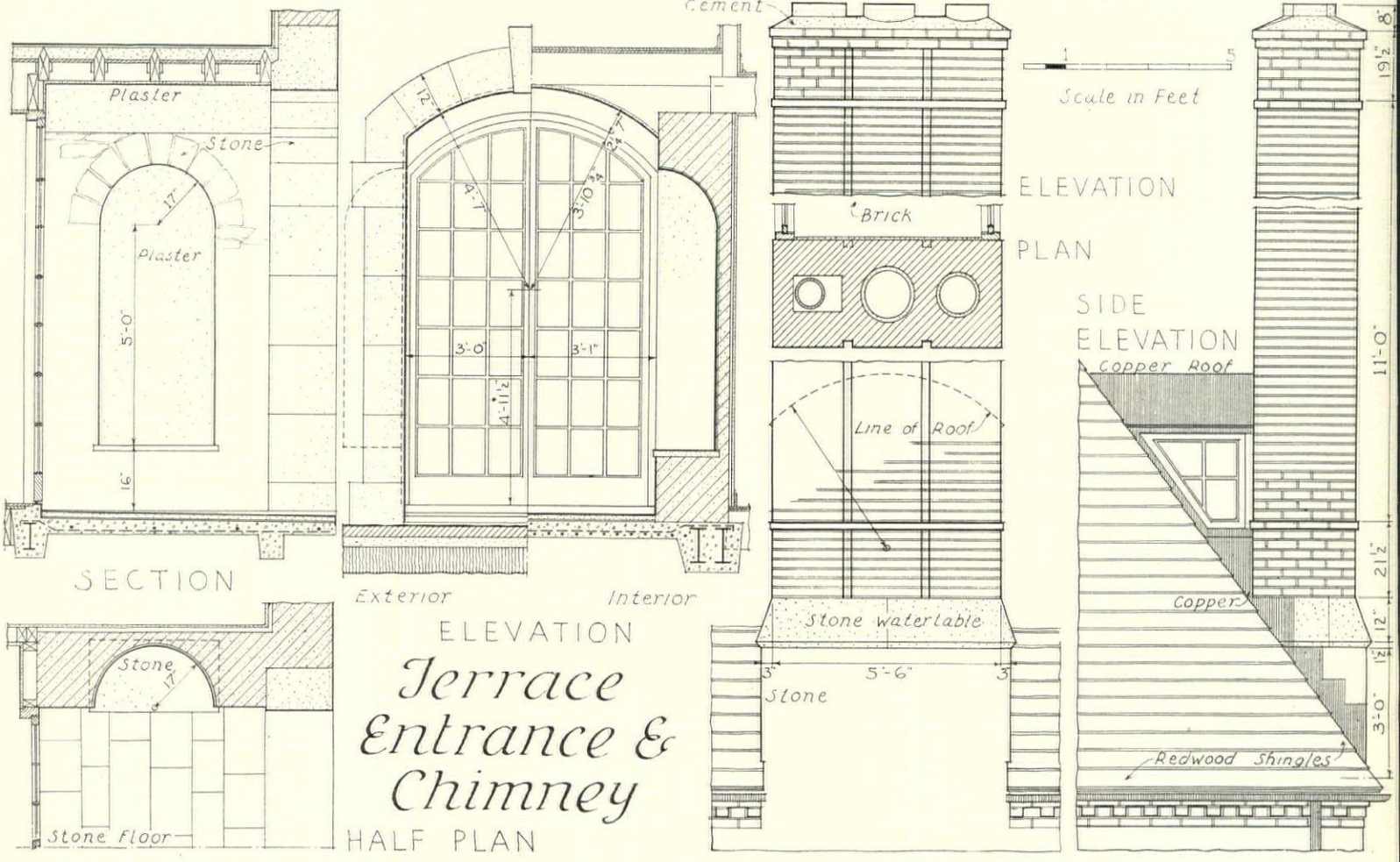


PLAN

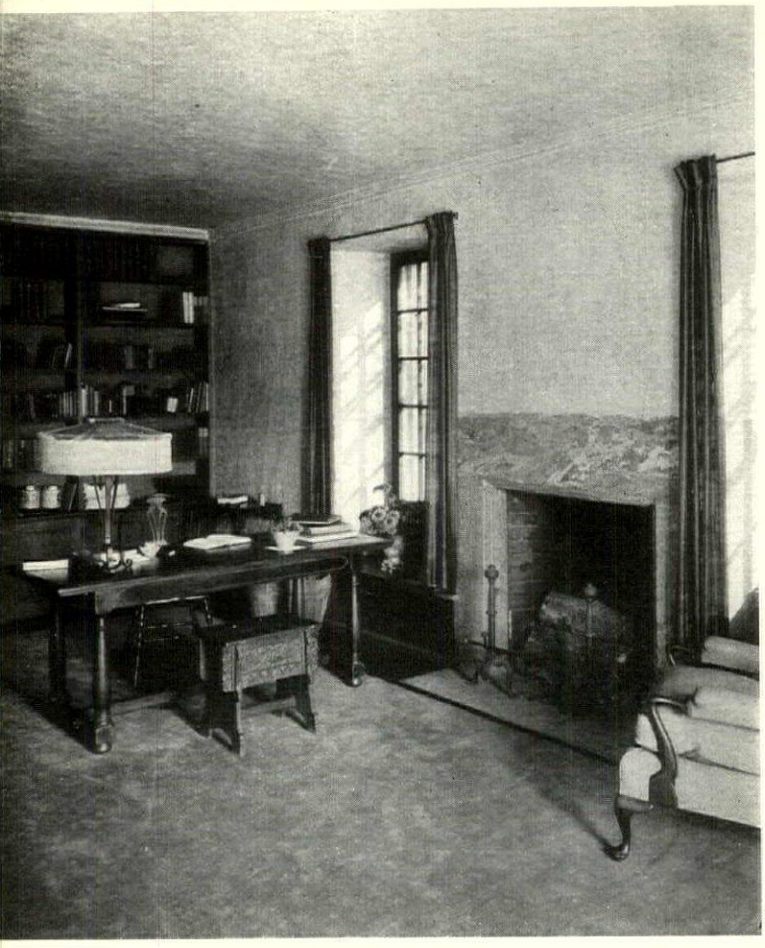



SECTION
Scale 3/8"=1'-0"
Redwood Shingles
Brick Dentils
Hung Gutter
Stone
Cut Stone Doorway
ELEVATION
Scale 3/8"=1'-0"
2"
2'-10"
Granite Sill
Second Floor Line
3" Flagstone
Wrot Iron Railing
4'-4"
22"
2 Angles 6"x6"x1/2"
Twisted Bars
Cut Stone Doorway
9"
Iron Gate
Wrot Iron Gate
Plate Glass Back
3" Flagstone Treads
Stone
10'-0"
5'-9"
5'5"
First Floor
Grade
Court Yard Stair Details
Iron Gate
Granite Sill
PLAN
20"
20"
12"
0 1 4 7
Scale in Feet

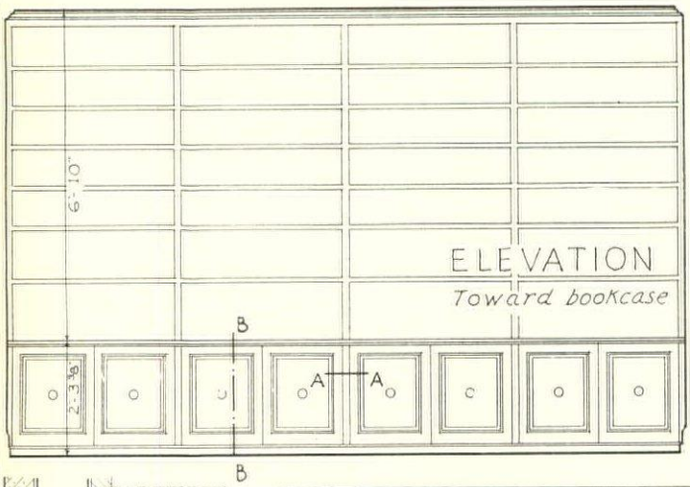


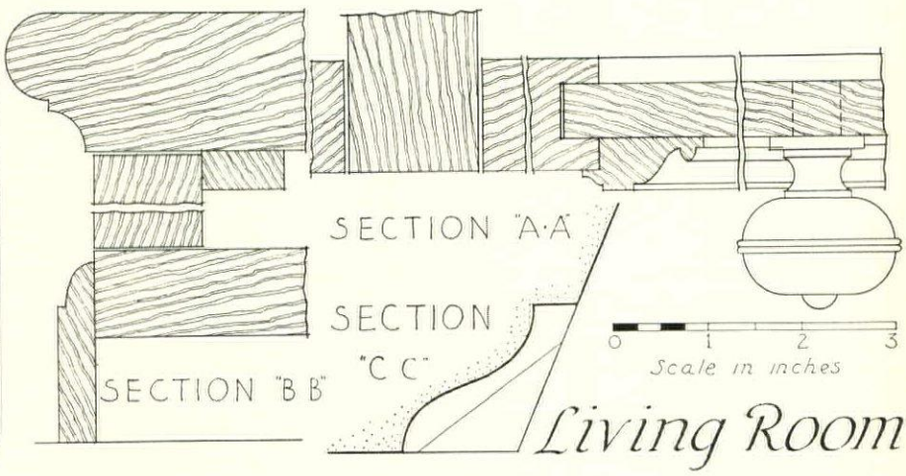


Terrace Entrance & Chimney

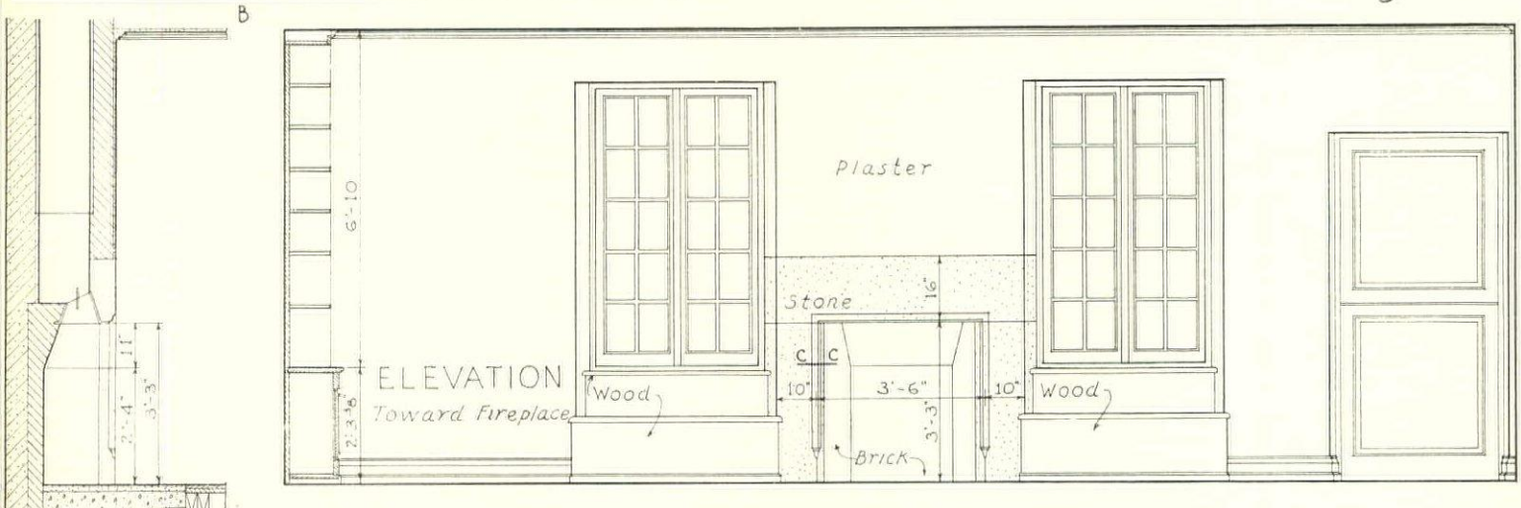


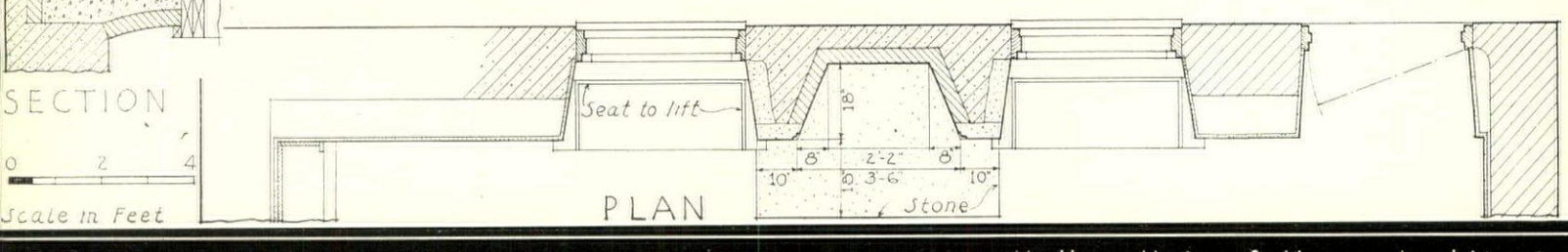



6'-10"
ELEVATION
Toward bookcase
B
A
A
B


SECTION "A·A"
SECTION "C C"
SECTION "B B"
0 1 2 3
Scale in inches

Living Room


6'-10"
ELEVATION
Toward Fireplace
Plaster
Stone
16"
C C
10"
3'-6"
10"
Wood
Wood
3'-3"
Brick


SECTION
0 2 4
Scale in Feet
Seat to lift
18"
8"
2'-2"
8"
10"
3'-6"
10"
Stone
PLAN

A WAY TO ARCHITECTURAL PRESTIGE

A MINORITY REPORT ON THE FUTURE OF ARCHITECTURE

BY TALBOT FAULKNER HAMLIN

It is customary in all general considerations of the future of the architectural profession to stress merely its practical and commercial usefulness. Last year in The Architectural Forum, for instance, not one of the eight contributors to the stimulating symposium on the future of Architecture mentioned, as far as I can see, either art or beauty. Perhaps this fact is significant of present attitudes.

For not in decades has the profession of architecture been lower in popular esteem than now. If we compare the widespread influence upon American life of men like Hunt, McKim and Burnham, with the influence exerted by architects today, the fact is obvious. It is useless to gloss this over; we must face and examine the facts.

Oddly enough, this decline of public confidence in architecture as a *profession* has come at a time when popular interest in architecture as an *art* is decidedly alive. It is a remarkable fact that this interest in the art has not resulted in raising the professional standing of its practitioners. Surely there must be a reason for this paradox.

I believe that the existence of this unfortunate condition, this popular discounting of our value, is largely our own fault. Our professional status is low because we have lost our own idealism. We have tried so hard to be "good business men," in our professional periodicals we have prated so of efficiency, accounting systems, and how to make buildings pay, that the man in the street is not unjustified in considering us mere adjuncts and means to profit making. On the one hand we have boasted of our engineering prowess; on the other, we have tooted our own commercialism — what wonder that clients have approached us to bargain for reduced fees and to put us at the very bottom of the pile in the complex organization that lies behind large commercial buildings? Quite rightly, the client knows that commercially the real estate promoter is more of a technical expert in real estate than the architect, and that the engineer is more of a skilled technician in his field than the architect. If efficiency and business enterprise are all the architect has to offer, so much the worse for him.

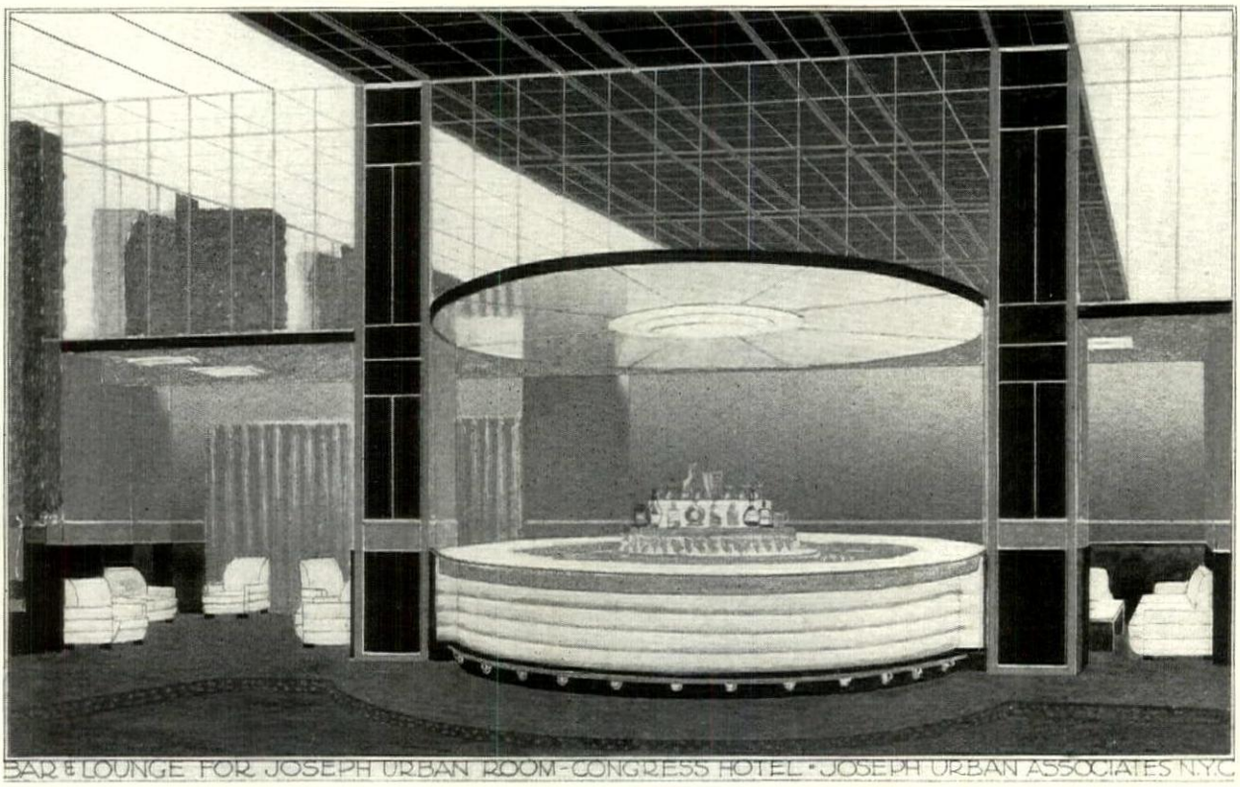
For instance: In a recent operation of colossal size, the entire general plan comprising many units of varying function was absolutely, and disastrously controlled by a diagram sketch prepared by promoters, mainly from the one point of view of "enclosed space for rent," without any evidence of careful study of either architectural effect or city planning considerations. The principal architects, engaged after this plan had been made, thus became mere drapers to hang stuff on this framework — and *apparently without any effective protest!*

If the architect bases his own claim to community standing upon his business, promotion, or salesmanship success, this professional right lapses; he becomes merely a sort of advisory retailer paid (regrettably, perhaps) by a fee for services instead of a profit on a commercial transaction.

Ahead of the architectural profession I see two alternative courses. Let it continue as it recently has been going, laying more and more stress on merely commercial and technical matters, and claiming the community's tolerance on commercial and technical ability alone, and inevitably it will be swallowed up. Architects will cease to exist as professional men, and become instead mere cogs in the industrial machine, mere draftsmen for vast corporations like "Universal Houses, Inc.," or paid to hang fashionable and often superfluous decorations on buildings where the promoter thinks profits will be aided thereby.

But there is another road. Let the profession win again its professional standing, and win it on the only possible basis — that of the quality which alone distinguishes architecture from engineering, the ability to *create*. That is the architect's job; everything else is subservient to it. Let's take the rest for granted. Then our position is clear-cut at last. For the public understands creation, but for mere commercial decoration it has a swiftly growing boredom.

Let us insist first and foremost and all the time on our unique position as creators — as those who do more than any others to make our common environment beautiful or ugly. Let's no more seek reputation merely as those who make things pay. It has been said that all that is necessary to make money is a combination of greed and low cunning — surely the architects' claims should be on a higher plane than that. Let us re-win, by reassuming an attitude strictly professional, the prestige we once had, and have lost. Let us raise the practice of architecture from the slough of commercialism in which it lies today. Let's stop being primarily business men, engineers, salesmen, even sociologists — let's be architects. Only so can we as a profession regain our rightful place, and again be in a position where we can both help in the creation of noble programs, and build them into noble buildings.



NEW BAR FOR JOSEPH URBAN ROOM, CONGRESS HOTEL, CHICAGO

With the advent of repeal literally thousands of remodeling jobs are being planned and executed in hotels, restaurants, reformed speakeasies and the like. Legal restrictions, State and local, will influence the design. In New York, for instance, standing drinking at a bar is banned. The dramatic design possibilities of bars are illustrated in this mirror-canopied circular bar designed by Joseph Urban Associates. The bar front is golden and illuminated from the upper rail. The lounge room is apple green, the floor dark green, the ceiling silver (except for the mirror) and the trim is green and gold. Golden yellow chairs complete the scheme. Before remodeling is shown below.



THE

ARCHITECTURAL

FORUM

▼

BUILDING MONEY

A monthly section devoted to reporting the news and activities of building finance, real estate, management and construction

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WASHINGTON DODGE, II

Editor

THE ESTATE OF MARSHALL FIELD

is completing its largest project. Notes on what waits in trust for Marshall Field III.

ON THE site of the Home Insurance Building, generally conceded to have been the first U. S. skyscraper, an important construction milestone was passed last month, accompanied by the traditional ceremony of flag-raising. It was the completion of the framework of the 42-story tower of the new Field Building. The first section of this structure was ready for tenants last May. By next May the entire building should be completed, ranking as the fourth largest skyscraper in the U. S. and largest in Chicago (for a complete discussion of the architectural and mechanical features of the Field Building see pages 443 to 450).

Last month the National Association of Building Owners and Managers reported



Trustee George Richardson

only two office buildings under construction in the U. S. One was the Field Building, with 610,000 sq. ft. of rentable office area. The other was a building in Portland, Ore., with a rentable area of but 44,000 sq. ft. Unless plans for another large skyscraper miraculously materialize between now and next May, completion of the Field Building will put a semicolon if not a period at the end of the recent skyscraper era.

Perhaps the chief trouble of the skyscraper era has been the shoestring nature of most of its financing. Equities were too slim to carry a 25 or 35 per cent vacancy. Foreclosures brought rental clipping and more foreclosures. If coincidences were omens, it would be a good omen indeed that the latest skyscraper, arising on the site of the first, is being built by a builder whose resources are adequate for all practical purposes, a builder who has never borrowed or felt like borrowing.

This builder is The Estate of Marshall Field which consists of a great wealth largely invested in land and buildings. It is being administered in trust for Marshall Field III, grandson of Chicago's famed merchant. The Estate of Marshall Field will become the property of Marshall Field III on September 28, 1943, on which day Mr. Field should sit down to a birthday cake with half a hundred candles.

Guesses at the value of the estate are impossible, although many Chicagoans like to indulge in them. When Marshall Field died in 1906 the guessing began, with $100,000,000 as the favored figure. Three years later the guesses were shown to be wrong when the court reported an appraisal of the estate fixing its value at $83,459,032. Of this sum, $58,473,292 was represented by personal property and $24,985,740 by the choice parcels of downtown real estate which Mr. Field had been acquiring during the last two decades of his life. Special bequests and trusts set aside some $25,000,000 from the main estate. Among these were a $6,000,000 trust fund for Marshall Field's daughter, Lady Ethel Field Beatty; a $6,000,000 trust fund for his three grandchildren and another sizable trust fund for Mrs. Marshall Field, Jr., widow of his son.

Although meeting these bequests involved the segregation of various parcels of real estate, the remainder was sufficient to make The Estate of Marshall Field far and away the most important factor in Chicago real estate. It has always been in the hands of steady, conservative trustees and their actions have been largely guided by Marshall Field's will, a document which might well be considered a superb manual by anyone interested in the slow process of creating and conserving a real estate fortune (see page 509). One indication of how the estate has prospered came in 1930 when, seeking the court's approval to purchase some bonds, the trustees revealed that the estate had a net worth of $130,000,000.

First trustees of the estate were Chauncey Keep, prominent Chicago financier and businessman and close friend of the Fields, and Arthur B. Jones, Mr. Field's secretary. The corporate trustee was the conservatively managed Merchants Loan and Trust Co. Both Mr. Keep and Mr. Jones have died, and their places have been filled by George Richardson and Marshall Field III. By a succession of mergers the Continental Illinois Bank and Trust Co. ("Largest bank under one roof") has succeeded the Merchants as the corporate trustee.

The grandson of Marshall Field is a husky man of 40 who was educated at Eton and Cambridge and has spent much time abroad. His second wife is the former Mrs. Audrey James Coats of London, an enthusiastic big-game huntress and raiser of prize flowers. Mr. Field's great love of horses (which his wife shares) led him to join the artillery during the War and he participated in the St. Mihiel and Meuse-Argonne operations. His chief business interest has been the firm of Field, Glore & Co., investment bankers. He is a director of numerous corporations including Marshall Field & Co., the flotation of whose stock was handled by his firm. He lives and works in New York City and has a sumptuous Long Island estate, on which the home was designed by the Office of John Russell Pope. Marshall Field III's activity in the estate is chiefly concerned with its securities investments and there has been nothing to indicate that he has actively



Marshall Field

participated in the management of its real estate. The will of Marshall Field provided that if the trustees should disagree a majority vote would rule and that if opinion was equally divided the corporate trustee would make the final decision. But in Chicago it is felt that there has been no such disagreement, that Trustee George Richardson is the man who actually manages the estate, makes the decisions and directs the investments.

George Richardson is 46 years old. He was educated at Groton and Yale (1910) and wears a Phi Beta Kappa key. He was a captain in the 149th Field Artillery during the War and was once affiliated with Armour & Co. In 1914 he moved to Chicago and went to work for the ultra-conservative

Northern Trust Co. In 1921 he was made deputy trustee of the estate, and six years later a trustee. Mr. Richardson lives in smart Lake Forest, golfs at the Onwentsia and Shore Acres Clubs. He lives in a medium-sized, attractive, white-framed house and rides to work in the famed club car *Deerpath*. In Chicago he often lunches at the Attic Club (now in the Field Building) to which many a La Salle St. broker belongs. He is quiet in his habits, knows the "right people" but does not go in for a social life on a large scale. When he was appointed trustee, La Salle Street made a guess that his salary was $25,000.

Not until 1910 did the estate become a really active factor in the real estate market. Previously it had confined its operations to a few loans and the purchases of some parcels tied up under long-term leases. Among the first purchases was a 270x180 parcel which was bought for $2,996,250 and later used as the site of the Conway Building. This structure, for which D. H. Burnham & Co. were the architects, was named after the Massachusetts town where Marshall Field was born and has an assessed value of $1,360,000. Half a million dollars was spent for a corner site which was later consolidated with three other holdings (bought for $1,250,000) to form the site of the present State-Lake Building and Theater, which was built on a leasehold and not by the estate. Property worth $1,300,000 was exchanged for a part of the site of Marshall Field & Co.'s store (the estate's interest in Marshall Field & Co. is only that of a landlord and a stockholder). As other opportunities arose, more parcels were bought or exchanged and land was leased out for long periods with provision for improvements. The estate made no major sales and while its operations were confined to downtown central property, they represented diversified types of investments.



Chicago Arch.

The Conway Building

In 1922 the estate started to complete the assemblage in fee simple of the entire site of Marshall Field & Co.'s store. For one 48x150¾ fee under the store which paid $13,000 annually on a long-term lease, the estate exchanged a fee paying $20,000. Other accumulations were made and in 1924 the operation was completed. At that time Marshall Field & Co. was occupying the properties of the store and its Annex (more popularly called the Marshall Field men's store) under a lease expiring in 1937 at an annual rental of $1,587,550. The estate sold the main store building to Marshall Field & Co. for $8,770,600 and the annex for $3,229,490. A new rental schedule was drawn up. Under its terms Marshall Field & Co. agreed to pay the following net annual rental for the 384x341 retail store block: $768,000 for 13 yrs., $810,800 for seven yrs., $853,000 for 20 yrs., $896,400 for 20 yrs., $949,200 for 20 yrs. and $982,000 for the remaining 19 yrs. This annual average rental of $889,515, capitalized on a 5 per cent basis, represented a leasing value of $17,798,305, or $153.93 a sq. ft. For the Annex a similar type of lease with an average rental value of $152,909, or a leasing value of $140.65 a sq. ft. was made. While these figures were considered low at the time they were approved of by the court. It was generally considered that the estate was willing to accept such terms in deference to the great value which had accrued to the property as



Underwood & Underwood

Marshall Field III

MARSHALL FIELD'S WILL

The reading of Marshall Field's will on January 24, 1906, was a momentous occasion. So important was it held to be that the next morning the Chicago "Tribune" printed the 22,000-word document in its entirety as a special supplement. About $25,000,000 was disposed of in special trusts and bequests. Careful instructions were left relative to the management of the remainder. These instructions reveal Marshall Field's astuteness and constitute a guide to conservative management of a large estate in which there is both cash and real property.

"To the respective trustees of the several trust funds or estates created by this, my will, I give and devise full powers of management and control of the respective trust funds or estates, to invest and reinvest the same, and to vary the securities and property in which from time to time such trust funds or estates may be invested and to let and demise any lands and tenements at their discretion respectively; but in making leases it is my desire that preference be given to leases for long terms rather than short ones, not exceeding, however, except in cases of ground leases for building purposes, the period of 20 years.

"The respective trustees are authorized and empowered to sell, transfer and convey any of the trust property for the purpose of rebuilding or for reinvestment, and in case any buildings or building being part of the trust property shall be damaged or destroyed by fire, they may use any and all insurance money that may come to their hands and any other money or personal property of the trust estate for the purpose of restoring said buildings or building, or of rebuilding on the same premises in their discretion; but they shall have no power to borrow money or to mortgage any property; and the respective trustees shall collect and receive all the rents, issues and profits of the trust property and pay therefrom all the taxes, assessments, insurance and the necessary repairs upon the property except as the same may be otherwise provided for by the building lease or otherwise.

"It is my desire that the respective trustees shall give a preference, whenever it may be practicable to do so, to the making of ground leases instead of sales of lands under their power of sale. In making such leases, however, I direct my said trustees before giving possession of demised premises, to require and take from the lessee or lessees in every lease adequate security that the lessee or lessees shall within a reasonable time erect or cause to be erected upon the demised premises a building that shall, where the situation and character of the property will, in the judgment of my trustees, justify such requirement, be of first-class fireproof construction, and in any other case that the building shall be of as good and substantial a character as shall be suited to and be justified by the character and condition of the lands demised, and to cause to be included a covenant to that effect in the lease; and said security shall not be waived or surrendered until said covenant shall have actually been substantially performed; and until that time shall remain in the hands of said trustees to insure the performance by the lessee of all the covenants and obligations of the lessee or lessees under the lease; and the lease shall contain covenants for the payment of rent and taxes, assessments and repairs, and the upholding of the buildings, and for the benefit of the lessor such as are usual for building leases; and rent may be reserved at a fixed sum for the entire term of a demise or otherwise at the discretion of the trustees.

"It is my will and I direct that investments be made with reference to the security of the trust fund rather than of interest or income to be derived from it, and that where real and personal property have been given in trust, a proper proportion be maintained between them. It has been my general intention to keep at least half of my property in real estate and the rest in personal property; but in this particular my trustees are to exercise their own discretion and act in each case as may under such circumstances seem best to them."



Atwell

SOME OF THE 659 EMPLOYES OF THE ESTATE OF MARSHALL FIELD

(Reading from left to right): Ward Farnsworth, manager of the wholesale and manufacturing properties, formerly with Gordon Strong & Co. and with Harley Clarke's management organization; C. J. Weitzel, comptroller of the estate and one of the key men in its administrative branch; Frank M. Whiston, formerly with the pioneer real estate firm of Dibblee and Manierre, now manager of the Pittsfield Building, formerly manager of the Conway Building; H. O. Bailey, manager of the Conway Building after many years of experience in Loop rental campaigns; Gardner Brown, assistant to Trustee Richardson; A. J. Parkin, manager of the Marshall Field Garden Apartments, with 622 units to keep filled.

a result of its occupancy and development by the store. While many estates have been bothered by store tenants demanding reductions in recent years, it is not thought that any such negotiations have occurred between The Estate of Marshall Field and Marshall Field & Co.

During the past decade, operations of the estate have been fewer but larger. In January, 1926, the trustees purchased the Home Insurance Building, together with a small adjoining building for $3,250,000. This rounded out the site of the Field Building. Part of the site had been occupied by the Merchants Loan and Trust Building, which was one of Marshall Field's personal investments. Other small holdings in the block had been acquired from time to time. Among them was the purchase in 1922 from the Insull interests for $700,000 of the former home of the Commonwealth Edison Co.

Another major operation was the construction of the 38-story Pittsfield Building. This structure, for which Graham, Anderson, Probst & White were the architects, was named after the Massachusetts city where Marshall Field obtained his first job after leaving Conway, Mass. Work on the $4,000,000 building, which is across the street from the Marshall Field Annex, started in 1926.



Field Flag-raising: *Architect Howard J. White (left) and Trustee Richardson.*

In November, 1927, the estate launched on its most unusual enterprise. Through consolidation of 75 individual parcels, the estate acquired the two-block site of what is now the $4,000,000 Marshall Field Garden Apartments. This development houses 622 white families at an average rental of $9.57 a room. Andrew J. Thomas was the architect for the Garden Apartments, and they were chiefly the idea of Marshall Field III.

Depression has of course threatened the estate. Long-term leases have had to be canceled, property has been handed back



An investigating committee appointed by the Field Estate examined the Home Insurance Co. Building during its demolition to weigh the claims that it was the first U. S. skyscraper. Their decision was in the affirmative, as a bronze tablet in the Field Building lobby tells. Pointing to the column is A. N. Rebori of Rebori & Wentworth.



In the Marshall Field Garden Apartments are 622 units of from 3½ to 5 rooms, renting at an average price of $9.57 a room. During last spring's renting season, Manager Parkin reported that inquiries were greater than at any time since 1929. The Garden Apartments recently installed its own school for small children.

and rent rolls have rolled downhill. But as a result of the increasing number of properties which it has had to handle, the estate has built up one of Chicago's most closely knit real estate organizations. The estate's own managers are in charge of each of its properties, with individual managers in charge of each of its larger buildings. Nobody in Chicago would be surprised if the Field Building failed to earn a profit on the investment it operates immediately. Least surprised surely would be the estate's trustees. Papers which hailed the decision to go ahead with the building as evidence that the estate thought business was recovering were probably wrong. This huge investment in tangibles can be construed only one way. The Estate of Marshall Field must feel that Marshall Field was reasoning soundly when he wanted half of his wealth in real estate, regardless of income. And they must have felt that 1931, 1932, 1933, were good years in which to invest in steel, and stone and wood and labor. The rise in construction costs which has already reached 83 per cent of 1926's average is the first evidence that they were right.



Pittsfield Building

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Notes on the Field Building. The National Association of Building Owners and Managers reported last month in *Skyscraper Management* that there is a 28.60 per cent vacancy in Chicago office space, against a national average of 26.91.* The 610,000 sq. ft. of space still under construction in the Field Building will add about 2 per cent to Chicago's available floor space. The rental situation however has discounted this and Chicago space is now said to be selling at firm prices. General quotation in the Field Building is $3 a sq. ft.

A prominent part in the Field rental campaign will be played by an exceedingly handsome book entitled "The Field Building" which was prepared by Hayes, Loeb & Co., public relations counsels. Artistically illustrated and printed, the book is considered the best of its kind. About 7,500 copies of this book will be mailed to prospective tenants, in and out of Chicago. It tells of some of the following rental features (for a more detailed account of mechanical details, see pages 443 to 450):

Heating. Only Chicago building with enclosed radiation throughout. Heating units flush with walls. Both coal and oil furnaces, the oil burners making possible unusually quick heating in case of a sudden drop in temperature in spring or autumn.

Drinking Water. Fountain units in each office. Filtered, cooled, distilled, aerated, remineralized water, conveyed through tin-lined pipes, always available instantaneously. Fountains of modern design with metal trim.

Electricity. Only building in Chicago to have alternating current (supplied by special arrangement with the Commonwealth Edison Co.).

Air Conditioning. Basement and first four floors air conditioned throughout. Only building in Chicago to have complete air conditioning. Manager Carpenter feels that air conditioning will relieve to a very great extent the usual difficulty of renting the third and fourth floors.

Vault. Although Chicago's five great banks are within a block of the Field Building, the Illinois banking law prohibits banks from having branch offices. For a convenience to its financial tenants (which will probably be in the majority), the building will maintain safety deposit vaults of its own.

Offices. Walnut trim with walls tinted a warm buff. Hard maple floors. Aluminum window frames, semi-indirect lighting.

*Highest vacancies: Battle Creek with 40 per cent, San Antonio with 39.80; lowest vacancies: Charleston with 11.30, Lafayette, Ind., with 11.50; nearest to average: Hartford and Houston.



To the right is Robert Carpenter, Manager of the Field Building. Mr. Carpenter joined the Field Estate in 1928 as manager of the Conway Building. Since 1931 he has given his entire time to the Field Building. Prior to 1928 he was for seven years with the Continental Illinois National Bank Building.

A NEW CHAIRMAN

accelerates the H.O.L.C. and the Home Loan Banks.

EASYGOING old William Francis Stevenson stepped down from his post as Chairman of the Home Loan Bank and of the Home Owners Loan Corporation early last month. His shoes are being filled by former Vice-Chairman John H. Fahey, Massachusetts businessman, former publisher (Manchester *Mirror*, Boston *Traveler*, New York *Evening Post*) and War-time president of the U. S. Chamber of Commerce.

Chairman Stevenson called his resignation a "rotation of office" and will continue to be a member of the boards of both organizations, but Washington observers felt sure that no wheel of luck is likely to rotate lumbering Mr. Stevenson back into the chairmanships. Once Mayor of Cheraw, S. C., "Steamboat Bill" Stevenson was made chief of the Hoover-created Home Loan Bank after he was defeated for Congress, his friends feeling that the Bank was important chiefly as a comfortable depository for worthy political hold-overs. As soon as the H.O.L.C.'s organization started, it was seen that Chairman Stevenson was too weighted by political shackles to handle this big corporation with 12,000 employes and 208 branch offices. The larger share of the burden was carried by Mr. Fahey while Mr. Stevenson (in whose office were two in-law secretaries and whose personal secretary, A. E. Hutchinson, is known as "Two-job Hutch" because of a past record of doubling political posts) tried in vain to halt the march of political plum-snatchers.

The new chairman is aggressive and capable. He is widely known in business and financial circles and may be able to drum up more interest in the H.O.L.C. bonds. Last month however these bonds continued to sell at a discount of over 15 per cent despite numerous proclamations regarding their fundamental worth and numerous assurances that the market in them would soon be broadened. The failure of financial institutions to be more enthusiastic over these bonds has of course been the chief thing which has bedeviled the H.O.L.C. since its inception. Last month some observers still felt that when Congress meets it will agitate for the Government to guarantee the principal of the H.O.L.C. bonds in addition to the interest, a deed which would speed the success of the H.O.L.C. as well as dismay all other creditors of the U. S.

Other bedevilments afflicting the H.O.L.C. have included a large number of applications from people who are not in distress and a smaller number of applications from people who are in distress but totally ineligible to receive aid. While the number

of transactions actually completed remains small in relation to the half million or so distressed home owners, encouragement was to be found last month in the steady acceleration of the H.O.L.C.'s operations. The week ended November 17th found the H.O.L.C.'s ledgers in the following condition:

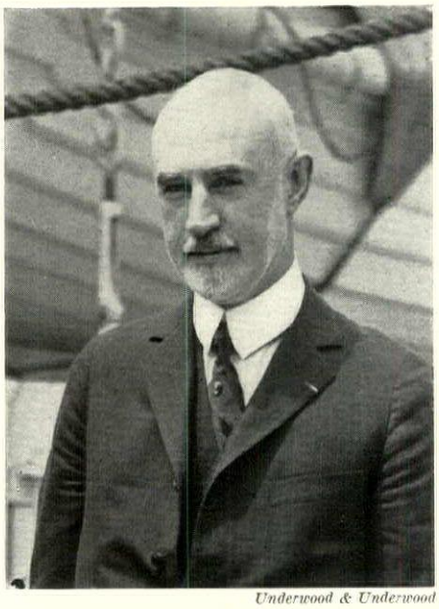
Loans closed	9,199
Loans closed, value	$26,032,935
Loans closed, av. value	$2,829
Tentative approvals	142,652
Tentative approvals, value	$402,782,729
Rejected before appraisal	29,301
Rejected before appraisal, value	$136,023,888
Rejected before appraisal, av. value	$4,642
Rejected after appraisal	13,873
Rejected after appraisal, value	$53,000,680
Rejected after appraisal, av. value	$3,847

Home Loan Banks. In contrast to the H.O.L.C., which issues its bonds in exchange for actual home mortgages, or may sell its bonds for cash and buy mortgages, the Federal Home Loan Banks were created to provide aid from the top down by lending money to member institutions engaged in home finance. Although they started to function in October, 1932, the twelve regional Home Loan Banks were exceedingly slow in actually advancing funds. It was over a month before a single cent was loaned and by last March their advances came to only $13,402,441. Recently, however, there have been indications that the muchly criticized system is finally accomplishing something. On October 10 actual loans were up to $70,028,318 and on November 23 they were $81,777,855.

Ten of the twelve banks were recently said to be operating at a profit. The pride-of-the-system last month was the Fifth District Bank at Cincinnati, whose territory includes Ohio (with such sorely troubled mortgage spots as Toledo, Cleveland), Kentucky and Tennessee. This bank was not only the first to pay a dividend on its capital (2 per cent), but last month used up its $16,000,000 resources and obtained a $3,000,000 loan from other Regional Banks which thus far have been less fortunate in finding worthy borrowers with worthy collateral.

The success of the Cincinnati Bank led the Home Loan Bank Board to predict that it will soon attempt to issue some bonds. These bonds would probably bear a 5½ per cent coupon and would be backed by: 1) Notes of borrowing members to the full amount of their loans; 2) A deposit in trust of diversified home mortgages equal to 190 per cent of the bond issue and not to exceed 40 per cent of the appraisal of the underlying property; 3) The entire resources of the system, involving the joint and several liability of the twelve Regional Banks. General opinion of bond experts was that a small issue would be tried at first and might have a fairly good reception. But with H.O.L.C. and Federal Land Bank bonds at substantial discounts, any large-scale flotation of Home Loan Bank paper seemed a remote possibility, even should the other eleven banks use up their funds and the RFC be forced to take up its subscriptions to the capital stock of the system in full. The system's last statement showed that the Government still has unpaid subscriptions to $67,371,000 worth of capital stock, indicating that the system can ease the nation's mortgage situation by at least that amount before the marketability of its bonds becomes an issue of vital importance in its program.

Federal Savings and Loan Associations. Said Chairman Fahey last month: "Due to the practical withdrawal of many insurance companies and commercial banks from the home finance field, hundreds of thousands of American homes from now on must be financed through other existing institutions which are in a position to extend loans of sufficiently long term to meet actual credit conditions."



Underwood & Underwood

Home-saver Fahey

Occasion of his statement was the announcement that the Federal Home Loan Board had approved charters for twenty Federal Savings and Loan Associations in seven States and that 86 others had received preliminary approval. The Government believes that building and loan associations and other lending institutions eligible to membership in the Home Loan Bank system are the "other existing institutions" which must carry the chief burden of home financing of the future. Federal Associations are ones which local interests form in "communities in which home financing facilities are now lacking and sections in which existing institutions are unable through lack of capital to meet current needs for home credit." They will be supervised by the Federal Home Loan Bank system and have access to Federal funds through the issuance of preferred stock, which can be sold only to the U. S. and its agents.

Federal Associations are what the Home Loan Bank Board thinks is an ideal building and loan association. They can lend 85 per cent of their funds on homes or combined homes and business property, provided that no one loan exceeds $20,000 or is on property within 50 miles of the Association's place of business. The other 15 per cent may be invested in loans on other improved property any distance away. All loans must be first mortgages. The Association may borrow only 10 per cent of the amount paid in on its shares except that it may borrow up to 35 per cent from the Home Loan Bank to which it belongs. All loans must be monthly amortized loans running from five to 20 years.

AN EXCLUSIVE AGENCY

is established in Boston by American Houses, Inc.

NEW England has furnished U. S. architecture with many a traditional form; yet the Yankee directness of the New England house — built with small windows because only glazed paper was at hand, stoutly built of wood because wood was plentiful — is not far from the philosophy of the man who builds or buys a house of steel today.

Into tradition-bound New England last month went Robert W. McLaughlin with his mass-produced steel houses. Prefabricated houses in four standard plans, varying in size from a one room and bath unit with folding bed and kitchenette to twelve or fourteen rooms, were put on sale in Boston, and the new Boston dealers of American Houses, Inc., were Taylor & Burchard, Inc., which filed incorporation papers with the Massachusetts Secretary of State October 16 last.

Since his graduation in 1927 from Williams College, where he was circulation manager for *The Purple Cow*, Frederick B. Taylor, son of a Waltham minister, has been selling bonds. Last month when he went into the steel house business along with him went Thomas H. Burchard, Cornell '32, son of a Boston insurance agent. Edward M. Rowe, young Boston lawyer, is signed as clerk of the corporation, and Lorimer B. Slocum, an advertising man, is a director.

The incorporation papers (which declare the organization may "act as distributor and/or agent and/or dealer . . . finance and arrange for financing . . . deal in contracts . . . buy, sell and hold land for itself or others . . . transport necessary materials, supplies and equipment by road, rail, steam, truck, air or water") list as an asset the new firm's "exclusive agency" relationship to American Houses, Inc., the New York firm whose line of houses is designed by Holden, McLaughlin & Associates.* Taylor & Burchard, Inc., now do-

*American Houses, Inc., and its houses were described in THE ARCHITECTURAL FORUM, April.

ing business in Waltham but soon to have a Boston office, will be dealers for all New England territory except Connecticut, which is being sold by New York. In Wellesley energetic Dealer Taylor plans to erect his first house which will be put on exhibition, perhaps sold.

American Houses makes a substantial product, having light steel frames which are sealed into walls of insulating material faced with fire-resistant asbestos cement. Into this is incorporated the color of the house in order to eliminate the necessity of painting as well as reducing the fire hazard. Standard equipment provides for modern heating, humidification and air circulation. The cost per room is said to be below that of the usual well-made home, because of the standardization of materials and low erection expense. The time required for building is also shortened to from four to six weeks.



Dealer Taylor

At the present time the company has throughout the country a dozen houses in various stages of construction. Ones near New York are at Morristown, N. J., and Oyster Bay, L. I. Other dealers beside Boston's: Don Hall, Inc., of Houston, Tex., and C. C. Daley of Orlando, Fla.

BIRDS OF A FEATHER

are flocking to the Rockefeller Center. One feather: PEDAC.

RENTING men have long known that a cloak and suit tenant brings other cloak and suiters, that one stock broker follows another. But never before had this form of leasing been so exploited as in Rockefeller Center. With a British Building to lure Dunhill, Yardley and dozens of other Anglo-American firms, French and Italian buildings to magnetize their countrymen, N. B. C. to draw the radio trade, Standard Oil to pioneer oil men into the building, Rockefeller Center has become a group of centers within a center.

PEDAC is a case in point. Hugh Robertson, the promoting member of Rockefeller Center's general managers Todd, Robertson & Todd once planned to have an arts building adjoining the still very pending new Metropolitan Opera House.

Last spring Nelson Rockefeller heard that interior decorator Paul MacAlister was contemplating a similar decorative arts center in a Madison Avenue penthouse. Friends brought them together, and early this fall the Permanent Exhibition of Decorative Arts and Crafts (PEDAC) was opened on the tenth floor of Rockefeller Center's behemoth, the RCA Building.

PEDAC leased the entire floor, 18,000 sq. ft. of space (12,000 of which is usable) for eight years. Thrown in with it they got 5,000 sq. ft. of terrace for nothing, from which they expect to draw revenue. PEDAC is run not by the building but by organizer MacAlister. He has divided his floor area into two sections, one for exhibition, the other for offices of decorators and service organizations which have no products to sell.

Thirty-six exhibitors and office tenants have signed leases — fabric, rug, lamp, paint, glass manufacturers, woodworkers, sculptors, decorators and the American Institute of Interior Decorators. Biggest job landed by exhibitor so far: photo murals for N. B. C. foyer by Drix Duryea through his PEDAC lobby murals.

Exhibit area is divided into sections and units, the most expensive being a 20 x 20 ft. enclosure, with or without a door, for $1,558 yearly. Wall units for rug and fabric displays 20 ft. long extending not more than 18 in. from the wall rent for $870. Window rents range from $75 to $100 yearly.

The general public is not permitted on PEDAC's floor, nor are representatives of exhibiting firms permitted to sell from their displays. Architects and decorators may take clients around and suggest to them rugs, drapes, wallpapers and accessories. A thousand architects and decorators had joined PEDAC by November 15, and were visiting the showrooms at a rate of 75 per day.

With this as a central attraction, space leasers of the RCA Building are concentrating part of their efforts to bringing manufacturers of decorative products into the building. Many prospects, but no tenants have been reported.



Built for George Appleton by American Houses, Inc., this house has six double bedrooms, two baths and a two-car garage. Exterior: soft white, with aluminum coping and pilasters, blue windows and doors. Cost: $12,000.

Bernard Hoffman

SEARS, ROEBUCK

retires from 75 per cent of its home construction business.

For nineteen years the home construction division of Sears, Roebuck & Co. operated at a profit. But since September, 1931, it has incurred huge losses. Last month the operations of this department were curtailed by an estimated 75 per cent with the abandonment of all home construction operations except in suburban territory around New York City. The company, however, will continue to sell building materials throughout the nation. The home construction division's activities have never extended south of the Ohio or west of the Mississippi, and while even last year its sales were in the neighborhood of $4,000,000 they represented less than two per cent of the company's total business. For the fiscal period from December 31, 1931, to January 28, 1933, sales declined more than 40 per cent from the previous period, registering a net loss of $1,154,985.

The fact that Sears can find no institution which will rediscount the mortgages it customarily takes from home buyers was said to have brought about the readjustment. At the first of this year the company held $10,000,000 in mortgages (THE ARCHITECTURAL FORUM, May). The Metropolitan Life Insurance Company granted a three-year maturity extension on $30,000,000 of the company's mortgages which it bought under a repurchase agreement.

+ Last month Johns-Manville voted the regular $1.75 quarterly payment on its preferred, plus a payment to make up for the arrears incurred April and July 1. This leaves the October 1 dividend still in arrears. A total of $393,750 was involved in the three payments.

+ Late last month Holland Furnace Co. reported for the half-year ended on September 30. Result: net profit of $142,701 against a net loss of over a million dollars in the same six months of 1932.

BACK-YARD OIL WELLS

are not welcomed by Oklahoma City's realtors. A charter amendment to halt them is proposed.

FIVE years ago a gusher blew in three miles southeast of Oklahoma City, opening what became one of the nation's major oil fields. As everybody knows, the wealth represented by the crude which has flowed from this field (to date: 161,000,000 bbls.) has been an enormous boon to Oklahoma City and the State of which it is the capital. But little has been said about the vast amount of trouble which the field has caused to Oklahoma City real estate interests.

Last month oil-caused strife was being waged hotter than ever. The battle line was drawn over the question of how far into the city proper the oil fields should be allowed to extend. First shot in this conflict was fired in January, 1929, when the City Council prohibited drilling anywhere within city limits. Four months later however this restriction was modified and further revisions from time to time allowed the field to creep northwards until by last June it occupied some ten square miles of residential and business property, or about one-quarter of the city's entire area. Derricks have reared their crownblocks in thickly populated areas and within a stone's throw of warehouses and wholesale buildings. They are plainly visible from the windows of office buildings and from the business sections of some of the city's most important thoroughfares (First Street, Main Street, Grand Avenue).



Realty Board President, Oklahoma City

Cause of the renewed trouble last month was the success of a new well two miles north of the old field. Its owner is Frank Russell, a youthful looking, individualistic operator still in his early 30's who came to Oklahoma City from Alabama four years ago with $400 and is now considered a millionaire. He is a bitter opponent of production proration and has never lost a final decision on one of his cases. Last summer when he started drilling operations in the new area he exclaimed: "Nothing can stop me from drilling out there. I am going to put 1,500 men to work and turn loose millions of dollars in this town."

His bet was the No. 1 Highley Well, across the street from city limits, about 3,000 ft. from the capitol and less than 2,500 ft. from the Governor's mansion On September 27 the well, to quote from a morning newspaper the following day, "blew bailer out of the hole and sprayed oil and mud over a small area at noon, while drillers were bailing at 2,800 ft. The flow was turned into the slush pits and before it was cleaned the hole bridged."

On hand when the well blew in were Operator Russell and a crowd of spectators. The latter were treated to an excited outburst on the part of Operator Russell and a keg of beer on the part of a man who owned a royalty nearby. When gas began to show Russell asked, "Does she look good boys? If she's a duster, I'm going to throw the cards away." Then, when the crude shot to the crown and sprayed its owner's new suit, he shouted: "Think of it! A quarter of a million dollars in that hole. . . . My geologists told me to stop because I was running too low; the supply men demanded money on the barrel head, and nobody would give me a thing except the Governor and he wanted to give me Hell. . . . Boy, I need to sell that oil, for I need pork chops out at my house and my employes need the do-re-me."

Pleasing as was this discovery to Operator Russell, it threatened a major crisis in Oklahoma City's extension struggle. Between the No. 1 Highley and the Oklahoma City Field is some $15,000,000 worth of property. It includes the exclusive Culbertson Heights and Lincoln Terrace residential sections (where sometimes thin sprays of oil are wafted from the City field); the State University Medical School; the University Hospital and the Crippled Children's Hospital. In addition, geologists feel that the field may extend half-a-mile to the north and sufficiently to the west so that its richest area may be under the State Capitol.

Chief reason why real estate interests wish the oil fields kept out is that few wells have production sufficient to compensate for the destruction of value they cause, especially at present crude prices. The Oklahoma City Real Estate Board, headed by aggressive S. Kellam Shield, plans a hard fight against further extension within city limits while Operator Russell, holding leases on about 700 acres between the two fields, is fighting in the courts for the right to complete two test wells begun in that territory but halted by the Governor's order.



November coincidence *

Realtor Shield estimates that a square block in this section of Oklahoma City is worth $400,000 and that the average oil recovery would not be worth over $450,000, even with oil at $3 a bbl., or almost three times the present price. Property owners receive only a royalty, which usually brings them but 12½ per cent of the oil's sales price. In open country and blighted districts, oil wells can pay property owners handsomely, but in Oklahoma City much doubt is felt as to whether the income from wells in the residential sections which have already been opened to oil has come at all near compensating for the complete destruction of values. A sign of how building moneymen felt at what was happening was Mr. Shield's statement that mortgage companies have already refused to lend any money on the property between the new well and the City field.

In addition to the flight of value and mortgage money from city real estate used for oil, fire insurance becomes prohibitive on homes near an oil well. It was reported in Oklahoma City last month that the exclusive homes in the Lincoln Terrace and Culbertson Heights districts were already being eyed askance by underwriters. Oklahoma City has vivid memories of great oil fires. For thirteen days in March, 1930, a Sinclair-Amerada well burned, with some 100,000,000 cu. ft. of gas a day as fuel. Then came the great Mary-Sudik fire which threatened the entire field, spraying the entire city with oil, and caused the Fire Chief to order all windows to be closed. Since the Oklahoma City Field was opened,

* The building in the foreground is owned and operated by the Southwestern Bell Co. It is 16 stories high and was built in 1928. I. R. Timlin of St. Louis was the architect.

69 fires have occurred in it and the fire department has answered 345 calls.

Many people feel that there is in reality little fire danger from an oil well and Operator Russell scouted the fire danger when his No. 1 Highley came in. Said he, "It's just as safe to drill in the city as out in the middle of a big cow pasture. Look at California." Yet last month the impossibly dramatic happened. Four days after the new Russell well came in, his No. 1 Reno, in the Oklahoma City Field, caught fire. While several hundred men struggled to close the main gate and streaked over the city, Operator Russell blamed the fire on incendiarism and claimed that the fire department was inefficient. But to anti-extensionists the blaze seemed proof enough that it was impossible to mix oil wells and homes.

The question of whether or not to extend the oil fields plays a large part in Oklahoma City politics. In April, 1933, a new mayor, Clarence J. Blinn, and a new City Council were elected on an implied if not expressed pledge against further extensions. In June a small extension was voted with the idea of rounding out the existing zone. A recall of the mayor was demanded and obtained. Even before the No. 1 Highley came in a majority of members of the City Council were on record as being against further extension. Last month they unanimously voted to prohibit any extension at all until the people have voted on a proposed charter amendment. This amendment would provide that no well could be drilled out of existing zones without a popular vote, the cost of the vote to be paid by the aspirant driller. In most circles it was felt that the passage of this amendment will prevent further extension for many years and protect real estate values.

WITHOUT COMMENT

"THERE are instances to show that the customary allowance for obsolescence is too low and not infrequently a board of directors is unwilling to undertake new structures and new equipment because of values still carried on the books." *Industrial and Engineering Chemistry*, journal of the American Chemical Society.

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"Pecora's going to have me down at Washington on our housing loan. What'll I get out of that? A lot of free national advertising, I suppose. . . .

"Certain of the authorities in Washington should cease their meticulous scrutinies, brace up against their terror of possible investigation and step into the spirit of the President and of the National Recovery Act. . . .

"Why are we constructing twelve-story buildings, instead of six-story buildings? Because the cost of land anywhere, whether in lower Manhattan or any other place in the world, is rendered less expensive a room a month for the tenant by building twelve stories on it rather than six. In that way you make your land cheap. Any real estate man knows that but they don't know it in Washington yet." *Fred F. French.*

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"In the food lines of business average chain store rent exceeds by more than 75 per cent the average rent paid by independent stores. In the variety field, chain rents are more then double the average reported by the few independent stores in the field. Dry goods and apparel chain store rentals exceed the average of independent stores by about 50 per cent, while chain department stores pay almost twice as much rent as independent stores. Comparison of the average chain and independent rent together with the sales data shows that the chains can pay distinctly higher rents than independents without incurring a disproportionate expense burden, on account of their higher average sales per store. This means they have generally superior locations and several instances were reported of chain stores displacing independent tenants because of the rent paid." *Federal Trade Commission* reporting to the Senate on "The Chain Store in the Small Town."

ALL SPECIFICATIONS THE SAME



. . . but are they?

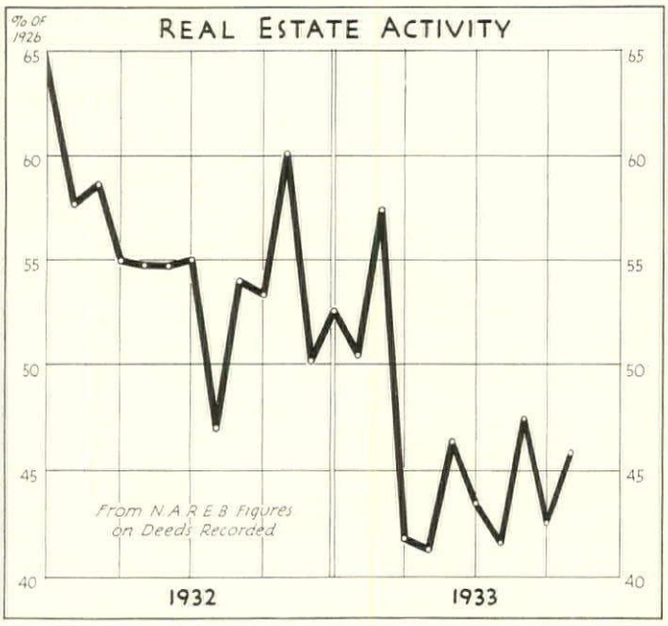
You can specify details up to a certain point. You can tabulate and compare quantities, capacities and sizes . . . and prove to yourself that all specifications are equal. But can you tabulate "beneath-the-surface" workmanship and materials? Can you tabulate years of experience and intensive research? Can you tabulate lower maintenance expense, longer life, greater dependability, and overall plant efficiency? Can you tabulate a factory trained field organization in which you can concentrate full responsibility for sound engineering, correct installation and proper functioning of the completed plant in the years to come? If you can . . . you will arrive at the true measure of value.

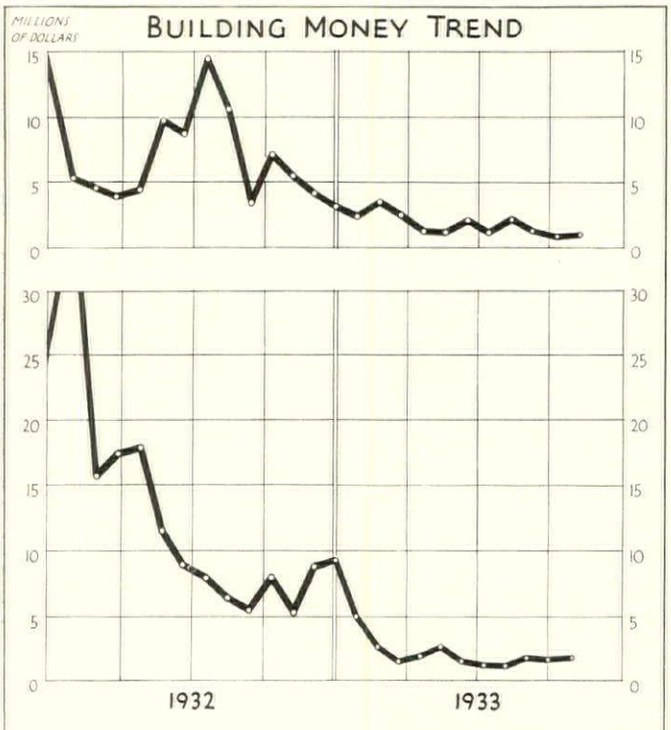
NRA

YORK ICE MACHINERY CORPORATION • YORK • PENNSYLVANIA

REFRIGERATION • AIR CONDITIONING
MILK & ICE CREAM PLANT EQUIPMENT

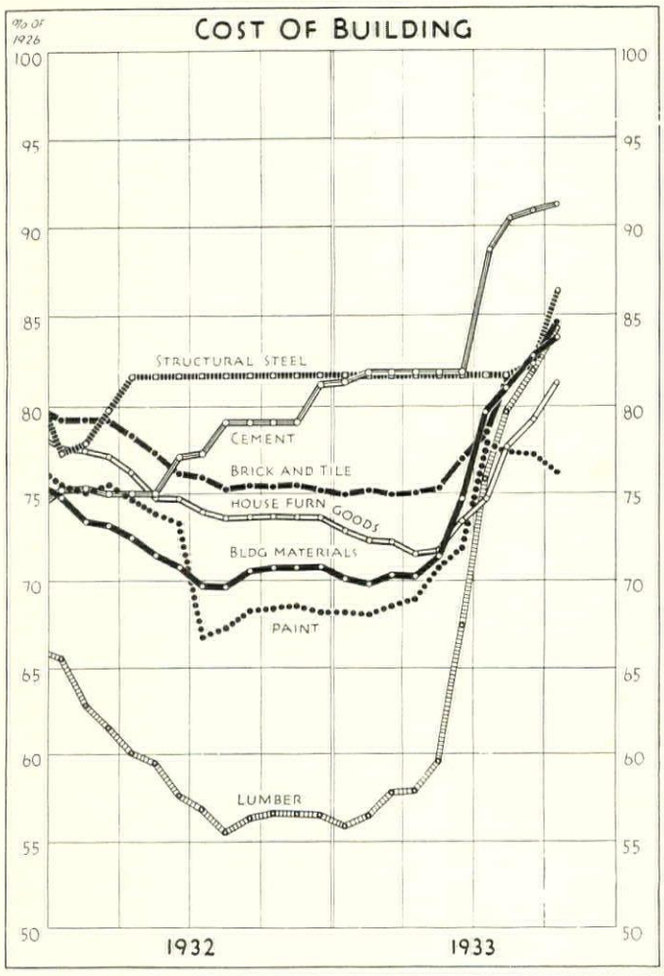
CHARTS

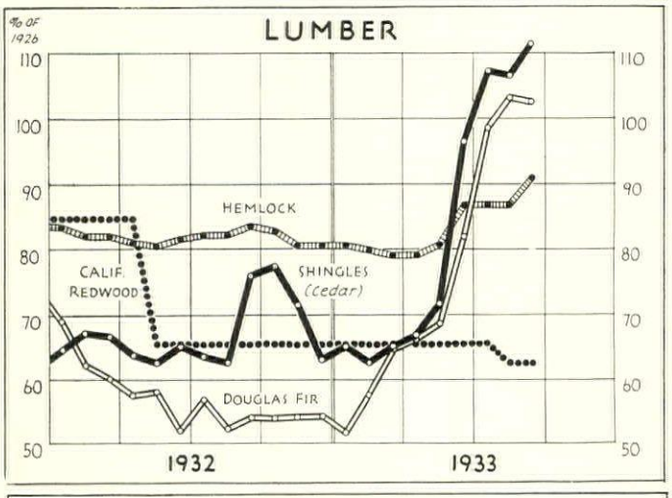


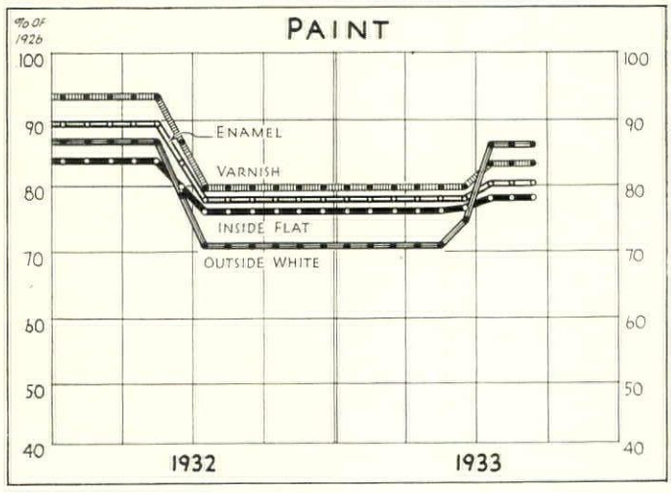


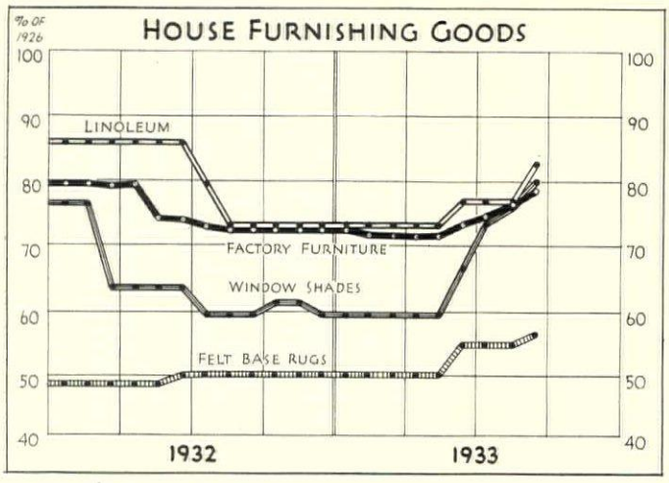
The trend of money output for building is shown, the upper chart representing the Urban Mortgage Investment Policies of 34 Leading Savings Banks, and the lower that of 28 Leading Life Insurance Companies

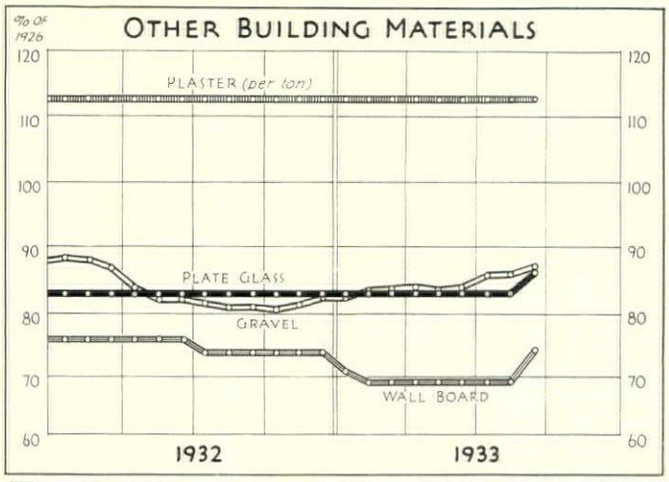
These charts are based on four week totals compiled and copyrighted by the New York Evening Post.

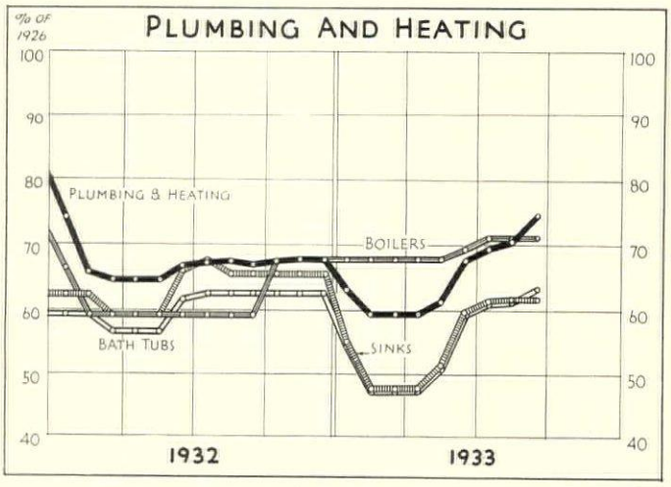


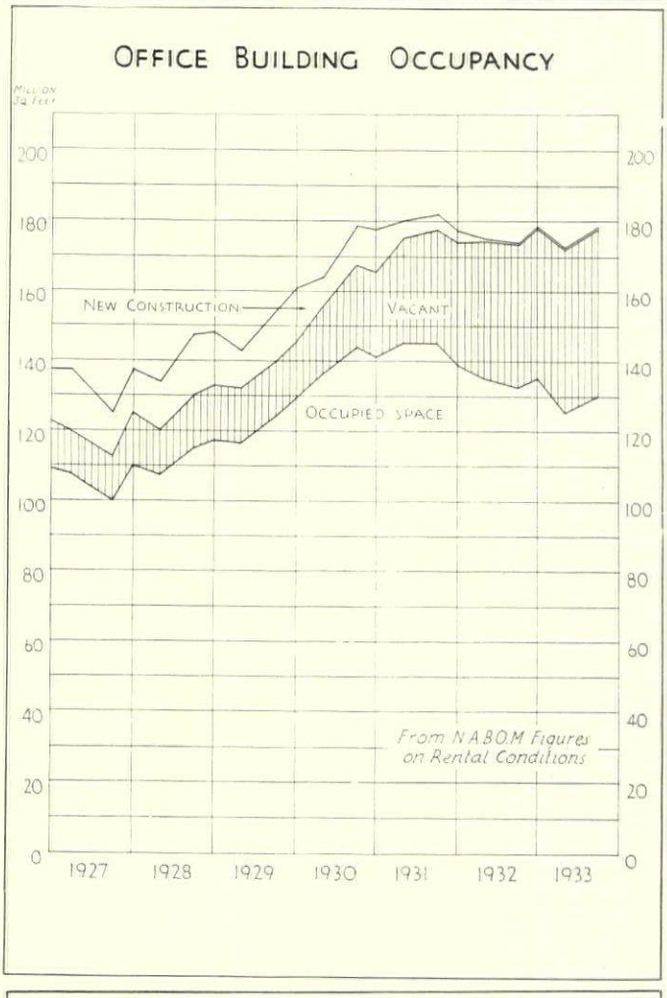


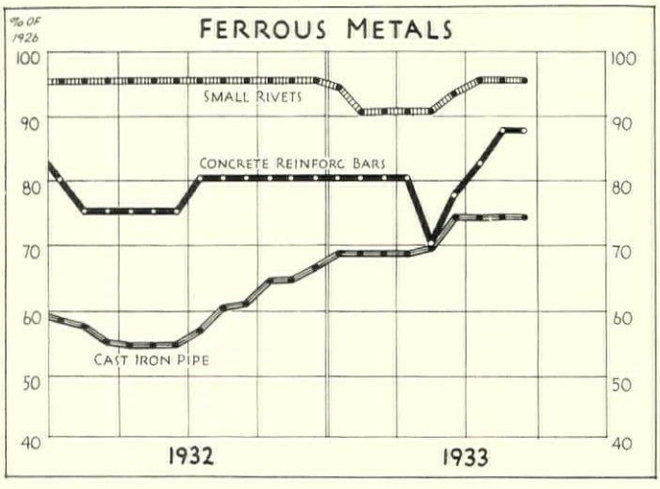


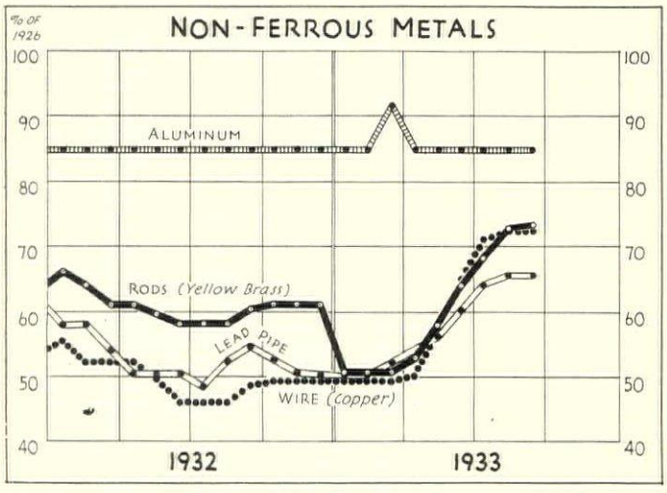

% OF 1926
HOUSE FURNISHING GOODS
LINOLEUM
FACTORY FURNITURE
WINDOW SHADES
FELT BASE RUGS
1932
1933

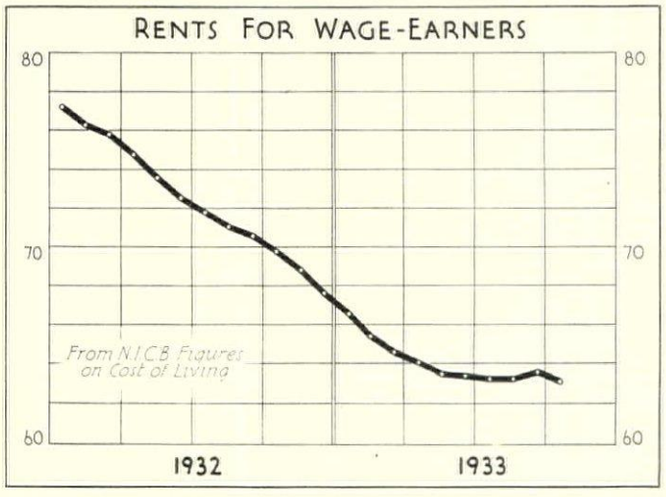

% OF 1926
OTHER BUILDING MATERIALS
PLASTER (per ton)
PLATE GLASS
GRAVEL
WALL BOARD
1932
1933


% OF 1926
PLUMBING AND HEATING
PLUMBING & HEATING
BOILERS
BATH TUBS
SINKS
1932
1933


OFFICE BUILDING OCCUPANCY
MILLION SQ FEET
NEW CONSTRUCTION
VACANT
OCCUPIED SPACE
From N.A.B.O.M. Figures on Rental Conditions
1927
1928
1929
1930
1931
1932
1933


% OF 1926
FERROUS METALS
SMALL RIVETS
CONCRETE REINFORC. BARS
CAST IRON PIPE
1932
1933


% OF 1926
NON-FERROUS METALS
ALUMINUM
RODS (Yellow Brass)
LEAD PIPE
WIRE (copper)
1932
1933


RENTS FOR WAGE-EARNERS
From N.I.C.B. Figures on Cost of Living
1932
1933

WASHINGTON IS A-BUZZ

with NRActivity, and Capital City real estate gets the benefit.

In 1931, shortly after President Hoover got his office air conditioned, a New York *Times* correspondent declared: "Washington at this writing seems about the most depressed city in the United States and not the least sad among the sad cities of the world."

A whole year later, as everywhere, things were in a still sorrier state. Building contracts for the District of Columbia fell off $11,582,544 from 1931, despite the fact that permits last year were for over 2,000 buildings to 1931's 1,743; indicating the great drop in the cost of materials and labor.

Meantime Washington's mammoth Department of Commerce Building was finished and when moving day was over the Government had relinquished 243,638 sq. ft. of space in Washington office buildings — an amount sufficient to send rents tumbling and many buildings into bankruptcy.

Washington home owners had no troubles until long after the depression had hit hard in other cities because for three years Government payrolls stayed at prosperity levels. But when salaries were cut, reaction came quickly. "Doubling up," a natural result, was intensified because already many had come from other cities to live with relations who had stable Federal jobs. Rather then lose their homes some families rented them, sought cheaper quarters for themselves. The rental situation became chaotic when apartment houses, facing a concerted clamor for lower rents and contract cancellations, unwisely refused to treat with their tenants. Instituting a probe, the Senate District Committee cross-questioned many a member of the Washington Real Estate Board, which it charged had kept the cost of housing artificially high; and afterward Chairman Capper proudly blared he had reduced Washington's rent bill $1,500,000 "and possibly two or three times that amount."

There was added unrest as a new administration, always a disrupting force at the capital, approached.

Then suddenly Washington's fourteen banks shut tight.

At the first of this year all that Washington could possibly boast of was her record number of architects employed.* Stricken, the city got a renovize campaign under way just before gray March 4. Thereafter destiny brought to the capital of the U. S. more real estate activity than has been anywhere seen in five long years.

▪ ▪ ▪

Washington building moneymen had not been asleep during the catastasis. The District of Columbia Bankers Association, for instance, fell in spiritedly with the renovize drive, setting up a $500,000 fund from which home owners could borrow $500 each for making repairs. In one of a series of articles "dealing with the revival of building construction with particular reference to Washington" which ran last month in the Washington *Post* the Association's President George O. Vass wrote as follows:

"The mortgage difficulties of our closed banks have reflected undue discredit on the large volume of first mortgage investments that have stood up during the depression. Records of the three largest life insurance companies for 1932 show that their mortgage investments earned a higher rate of return than did their bond investments.†

"Large life insurance companies," said Banker Vass, "regard Washington property as the best in the nation for security of investment. The records of five of the seven largest companies in the country operating in the District show why this is so. Information was obtained from three of these companies regarding all mortgage investments in the District. Two which furnished data are large investors in the home mortgage field." One company reported its complete mortgage investment record. The other four reported to Mr. Vass as of September 1. The picture of building money difficulties in the District of Columbia:

	General Mortgages (3 companies with average investment of $13,600,000)	*Home Mortgages* (2 companies with average investment of $8,750,000)
Interest in default	4%	1¾%
Foreclosures	2%	2%*

Federal Home Loan Bank Board figures on foreclosures the country over by representative leading insurance companies January 1, 1933, were: all mortgages, seven and eight-tenths per cent; home mortgages, five and one-tenth per cent.

Salvoed Banker Vass: "From the data presented I do not think it immoderate to say that a sound first mortgage on good Washington real estate is exceptionally desirable."

Office buildings are buzzing in Washington, with every industry in the U. S. keeping watch on the Potomac. The record of the Investment Building, as reported by President W. C. Miller of the National Association of Real Estate Boards in the Washington *Post's* articles, is typical. It has rented 101 rooms since the first of the year of which more than half were let since July 1. Nineteen rooms were rented to trade associations. Eighteen rooms were taken by attorneys representing business interests affected by codes. Four rooms were leased to manufacturers' representatives engaged in observing NRA trends.

The National Press Building, pride of all capital newshawks, which went into receivership a year ago when its $60,000 tenant, the Federal Radio Commission, moved to the Interior Building, has increased its rented space by 25 per cent in the last six months. In this building several newspapers have established Washington correspondents for the first time and the Democratic National Committee has enlarged its offices. Other newcomers: Petroleum Institute, Wholesale and Retail Grocers of the U. S.

The Tower Building, in which the Department of Justice rents 14,632 sq. ft., leased 28 suites in July mostly to lawyers and trade associations. The Washington Building (Treasury Department, 25,510 sq. ft.), the Shoreham Building (Federal Reserve Board, 13,808 sq. ft.) and the Hurley-Wright Building (five Government agencies, 62,705 sq. ft.) are filled to capacity. Because of good renting in the latter and in his new Southern Building, springy Patrick Hurley, Hoover Secretary of War, is glad.

Many a Washington office building's chief tenant is the U.S.A., and while the

*Of the 125 members of the Washington Chapter of the A. I. A., 33 are now on the Government payroll.

†Metropolitan's by one-tenth of one per cent; those of Prudential and New York Life by half of one per cent.

*To The Architectural Forum last month Weaver Brothers, one of Washington's largest mortgage companies, reported foreclosures on 50 homes out of 2,200 mortgages handled during the past eight years, a percentage of two and two-tenths per cent.



Underwood & Underwood

This is the $17,200,000 Department of Commerce Building, which released 243,638 sq. ft. of office space rented in Washington buildings during 1932, a fifth of the total space rented by the Government throughout the city.

Government building program may be expected occasionally to jerk its tenants from private buildings, Washington realtors bask in the fact that the Government is constantly increasing its activities at a rate at which the building program can scarcely proceed.

"The Government has a larger personnel by some 700 employes than it had on January 1 of this year," explains Realtor Miller. "And signs are that a further expansion of Government employment will occur. To date only 29 industries have been coded. One hundred and fifty to 250 codes will eventually be completed. The NRA and the PWA are still in their operative infancy and



Underwood & Underwood

Realtor Miller

will very probably utilize more help as their administration proceeds.

"As the recovery machinery of the Government gains momentum business organizations will establish Washington offices in increasing numbers in order to protect more effectively their interests under the operation of codes, the regulation of agriculture and the securing of Government funds in aid of business. . . . Chambers of commerce over the country are sending representatives here to study the recovery machinery at close range. . . . At the same time the Government is negotiating for 40,000 ft. of space in Washington office buildings to house an expected influx of new workers. This is an area half the size of the largest office building in the city."

That Washington's activity is not yet of boom proportions is indicated in the statement which the Public Building Commission gave THE ARCHITECTURAL FORUM'S Washington correspondent last month that Government rents in Washington for 1933 will amount to a trifle more than the $900,000 of last year, but that the average rate per square foot will be 23 cents under that paid in 1932. Rents, therefore, are by no means soaring, though part of this drop may be due to concessions gained on leases closed by the Government before the general recovery.

While Washington's office buildings may seem largely to batten off the Government, it should be remembered that Government leases are short-termed, and that as the Government's building program goes ahead there may grow more immense sponges like the new Commerce Building to suck in the stray beneficence. The trek to the Commerce Building in 1931–32 left empty a good fifth of the total space theretofore rented by the Government.

Discernible in Washington are only two minus factors. Unhappy Fact I: the Government is in the hands of men with no taste or wish for ostentatious living. There is many a deserted mansion; yet most of these have been so for several years. Likewise, the hotels are not renting their most elaborate suites. But supplying popular priced accommodations for NRA crowds keeps them hopping and they are thankful. "The best business in the history of this city" is the way Augustus Gumpert, secretary of Washington's hotelmen's association, puts it. "But," says Secretary Gumpert (and here is Unhappy Fact II), "the Chicago Fair took all our tourist trade this summer."

With a population growth during the depression, with Government activities on the increase, and with American industry likely to continue to want representation at the capital, there is much talk of a housing shortage.

Department of Labor building permit compilations for 1933 show that Washington, a city far smaller than any of the other leaders, ranks third in the U. S. in dollars spent for dwelling place construction. Only in New York City and in Los Angeles is Washington's expenditure bested. The following table shows Washington's standing:

	New Residential Buildings	*Families Provided For*
New York	$20,619,920	5,807
Los Angeles	5,050,630	1,791
Washington	2,414,950	425
San Francisco	2,331,944	701
Cincinnati	1,799,530	322

In September (latest accounting obtainable) only for New York (where Fred F. French's Knickerbocker Village enters the picture) and for Washington did the figures show a gain over the previous month.

There is further promised activity in the eradication of Washington's slums. "In Washington several million dollars will eventually be authorized for slum clearance," Robert D. Kohn, PWA's director of housing, has said. "Two demonstration units will be constructed. The first will cover about five square blocks and the houses of this will be renovized and modernized and only in part rebuilt. The second will include perhaps ten square blocks and will be located in a colored residential part of the city. Here the existing houses will be demolished and new ones constructed.

"While the architecture of the new houses is as yet undetermined, the layout will probably be a combination of two-family dwellings and three-story apartments. The new housing will cover approximately only 40 per cent of the ground, leaving room for courts, playgrounds and many other community facilities.

"The demonstration units in the District of Columbia are of particular importance because they will be under the eyes of so many legislative and administrative representatives and officials coming from all over the Union. As laboratory specimens they will be exceptionally fine in design and structure.

"There are indications that Washington may be one of the first cities to deal effectively with its slums and blighted areas."

THE AUTHORITY

of Tennessee Valley plans 250 homes for Norris Dam workers.

Not far from Knoxville the town of Norris, Tenn., is in the making. Norris, like Boulder City, Nev., is to be more than a construction camp, for a certain number of those engaged in building Norris dam will stay when it is finished. Large barracks at the edge of the town will provide living quarters for over half of the 2,000 workers, but for the 500 with families the Tennessee Valley Authority will build houses, 250 of which are now under construction.



Wide World

A House for Norris, Tenn.

Designed "with scant reference to the conventional suburban type of development, and none whatever to the cheap speculator's bag of tricks," every house, says Earle S. Draper, director of land planning and housing for the TVA, is "planned specifically to conform to a mountain setting, and, above all, to serve a mountaineer culture during and after a period of measurable change."

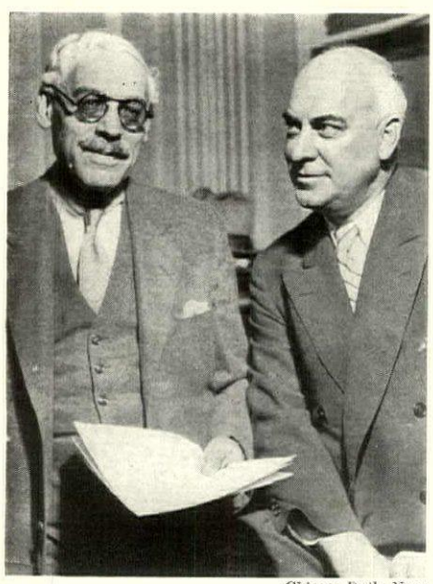
A majority of the houses will be one-story, with three and four rooms, built of local materials in simple traditional styles. Brick, stained boards and battens, and hand-split shingles, heavy as boards, will make up their exteriors. They will all have fireplaces; modern plumbing, with shower baths and built-in laundry tubs; electric ranges, hot water heaters and refrigerators, "the unusually complete electrification being justified by the low electric rates to be established by the TVA."

DETROIT'S FORESIGHT

gets it $3,000,000 for the first municipal slum clearance as the Federal housing corporation paves the way.

"THERE will be tangible dividends in decreased costs of combating fire, diseases and crime." — *Director of Housing Robert D. Kohn.*

With this sales argument, the Public Works Administration began dealing with municipal instead of private agencies last month, through the powerful Public Works Emergency Housing Corp., which Secretary Harold L. Ickes says will blast its way through the slums of twenty cities. He and Director Kohn both indicated that cities in States whose legislatures were ready to pass laws providing municipal housing authorities, which would build and manage low-cost houses with Federal funds, would be most likely to receive appropriations from the $100,000,000 which the PWEHC has to spend.



Chicago Daily News

Director Kohn in Chicago

Selected as the scene of a $3,000,000 initial project, Detroit bustled to get its slum clearance under way. Within 24 hours after the project had been approved, energetic Walter H. Blucher, secretary of the City Plan Commission, had turned in a requisition at the Detroit headquarters of the Civil Works Administration for 96 architects, wanted at once to carry forward survey work. Acting Mayor John W. Smith went before the City Council for $2,500 with which to pay their wages. Salaryless were members of a City Housing Commission which Mayor Smith organized to carry forth plans for Detroit's housing. It was expected that the Michigan legislature would soon constitute this commission an Authority, with full powers, such as are possessed by those in Ohio.* Its members were: Dr. Stuart Wilson, a diagnostician; Mrs. Charles E. George, president of the Civic Study Club; Rex Humphrey, real estate man; Duncan Moore, radio announcer; and Dennis E. Batt, controller of the Unemployed Citizens' League.

Preliminary work on Detroit's housing was done by the City Plan Commission with very little money at its beck, architects, planners and draftsmen volunteering their services for "experience." Beside Secretary Blucher, Tracy B. Augur, city planning consultant, and G. Frank Cordner, consulting architect, were active in directing the research work. The commission mapped four tentative sites of ten to twelve blocks each on the east side of the city to be cleared and rebuilt at a cost of $30,000,000. Another site, a four-mile area on the west side of the city, is also under survey. The planning body's rough plans call for an average of 28 dwellings in each of the quadrangles in the 32 acres of the first unit to be cleared. There are five types of houses, ranging from two and one-half to six rooms, and two types of small family flats to be built. These are to be fireproof and two stories high, with flat roofs and no basements. They will be heated by coal burners. Negroes will probably occupy them. At the rental price of $6.28 per room (lowest provided by any project approved to date) the structures will be able to pay taxes and their cost will be amortized in 35 years, according to the set-up furnished the PWA.

Actual razing of existing buildings depended upon:

1) Legalization of the Commission, which, under the bill before the State legislature now assembled, would be authorized to mortgage the property as security for the Federal advance of funds.

2) Acquisition of the site for the first unit.

3) Approval of the site and final set-up by the Federal housing corporation.

4) Selection of an architectural firm to draft the final plans.

5) Submission of the plans for bids from contractors.

If the PWEHC meets up with balky legislatures in States where cities have plans as far advanced as Detroit's it may charge ahead, condemn land, build and operate its own housing until it can be turned over to some responsible civic organization. Ratification of Detroit's housing commission was expected to follow shortly after THE ARCHITECTURAL FORUM's press time. Once legalized, the Commission may take over land by power of eminent domain, but last month Acting Mayor Smith was not waiting for that sharp scythe. He and Assistant Corporation Counsel Vance Ingalls rivaled Planner Blucher's speed in calling architects to work by mailing letters to 100 of the 276 owners of the property to be cleared, first day after the project was sanctioned, asking them to present themselves to execute options required by the City Housing Commission.

Detroit's project could offer rentals at $6.28 a room only on condition that the land be acquired at assessed valuations. "I think that most of the property owners will be glad to cooperate," said Planner Blucher. "We have already had letters from many of them." Banks and trust companies, he reported, had volunteered to aid the Commission in acquiring parcels on which they hold mortgages.

Secretary Ickes, cranky as ever about land costs, snapped: "We are not going to put ourselves in a position where any city can hold us up on speculative land values. In the event speculators boost the price of land in one part of the city we will move to another part. Should there be a general move throughout the city to boom location sites, we will move the housing project to another city."

While Director Kohn flew from city to city last month hunting mayors and city planners conversant with housing, Secretary Ickes was making no more tentative loans to projects born of private initiative. To date nearly $50,000,000 has been promised proponents of such projects (THE

*To Toledo's Metropolitan Housing Authority were appointed Charles F. Weiler, dry goods man; Leonard C. Price, secretary of the Toledo Real Estate Board; the Rev. Calvin K. Stalnaker; Miss Amy Maher, social worker; and C. J. Bushnell, university professor. In Cleveland and Cincinnati appointments were expected shortly. Ohio's State Housing Board had declared the necessity for housing in each of these localities.

DETROIT SET-UP, FIRST UNIT

PEOPLE	*Slums*	*Housing*
Population	2,665	2,550
Number of families	946	729
Persons per family	2.8	4
Persons per room	.89	.87
Persons per acre	80	80

COSTS	
Land cost per sq. ft.	$0.89
Building cost per cu. ft., NRA wage scale	.39
Total land cost	850,000.00
Total building cost	2,100,000.00
Land development cost	136,000.00
Carrying charges and preliminary organization	50,000.00

RENTALS		
Distribution of the rent dollar:		
Interest	$2.76	44%
Taxes	1.32	21
Operation and maintenance	1.26	20
Amortization	.94	15
Average rent per room per month	$6.28	100%

ARCHITECTURAL FORUM, September, October, November).

Philadelphia's two approved projects were temporarily blocked when Mayor Joseph H. Moore vetoed an ordinance framed to close streets crossing their sites. He said he feared the Government might eventually take title to the properties, making them no longer tax-productive. Backing him was one Gus Wick, real estate man, who maintained: "I got enough houses standing empty as it is."

Reports from a handful of other approved projects, none of which had yet received actual U. S. cash, indicated the following progress or lack of it:

"SITE FULLY ACQUIRED BY OPTION STOP WORKING DRAWINGS WILL BE COMPLETED IN UNITS THIRTY DAYS APART STOP FIRST UNIT COMPLETED DECEMBER FIFTEENTH."

"Sketches now nearing completion for final inspection of the Housing Division."

"Project not yet fully approved and under way."

"Have not incorporated as yet."

"Working out local financing."

"PROJECT DELAYED BY WASHINGTON CONFUSION STOP CONTRACTS NOT RECEIVED ALTHOUGH REPEATED ASSURANCE GIVEN THEY WOULD BE STOP WILL NOT START PROJECT UNTIL SURE TIME AND MANNER RECEIPT OF FEDERAL AID."

"Final arrangements not yet made with the Government."

"Progressing favorably and as rapidly as possible."

"Bids being obtained now."

"DETAILS OF INCORPORATION NOT COMPLETED."

Dissent was registered everywhere as the last of the $3,300,000,000 fund for public works seemed headed into low-cost housing. There was a growing clamor for loans for small home building. Cleveland's go-getting Don A. Loftus, self-named chairman of a "Home Builders and Land Developers National Committee," planned a "march on Washington" for "loans that will enable us to fill orders for new homes.

"I myself have bona fide orders for 1,150 single family homes in Cleveland," he cried. "The people have the money for down payments. I have the land, improved, with taxes paid. All we need is the first mortgage financing. The usual channels, as everyone knows, are not available. Available money is lying in Washington. We are going to get it!"

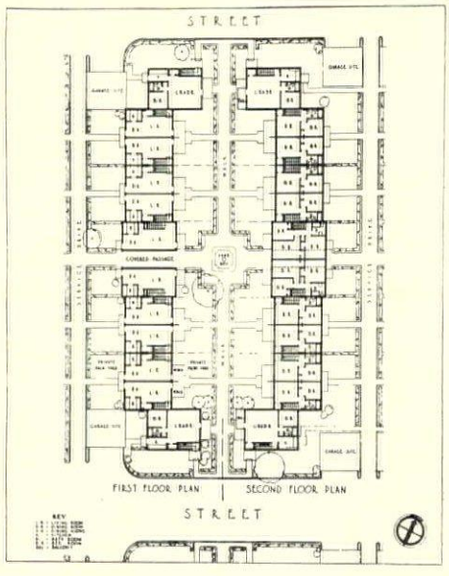
Last month Small Home Man Loftus ridiculed Government housing research workers in describing what he said was the type of structure to be built by the Federal housing corporation. Said he:

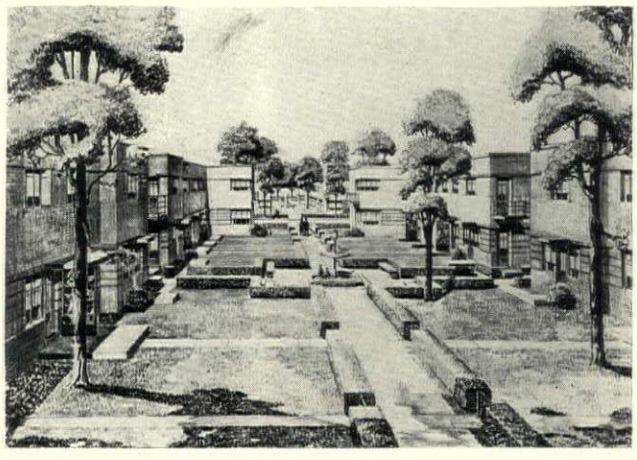
"There will be one partition in a unit that is to be divided otherwise by curtains into what will amount to a five-room apartment. That apartment will not have a single closet. The unlucky occupant will have to buy himself a wardrobe. This unit will be heated by an old-fashioned burner for which the occupant will carry coal up the outside stairs.

"In order to save costs, there will be no heat in the bathroom, and one of the PWA housing experts, after studying the heat effect of an electric light bulb placed in a chicken coop as an aid in hatching eggs, stated last week that the same electric light bulb would provide sufficient heat for these new bathrooms. All I have to say is that if I was able to shave in a chicken coop, I might be warm enough on a winter's morning, but the heat given off of an electric bulb in a bathroom would not keep the left toe warm of a healthy, red-blooded man.

"These units are to have the old type four-legged bathtub, and they will not provide any of the usual utilities such as refrigerators or kitchen ranges.

"If this plan is put over the building material interests may sell a lot of material to the Government and may get rid of some of their old-fashioned stock but they will lose the results of twenty-five years of research and painstaking engineering efforts and costly national sales and advertising efforts that have educated the public to the use of the newest materials and equipment. Living standards consequently will be forced backward instead of forward."





A plan and perspective show the simple, two-story houses grouped in quadrangles which will be built in the first unit of Detroit's $30,000,000 housing project, toward the realization of which the Public Works Emergency Housing Corp. has tentatively provided $3,000,000.

✚ The U. S. Chamber of Commerce denounced the financing of business units designed to compete with existing units now rendering adequate service as "contrary to sound public policy, destructive of savings investments therein. Loans to limited-dividend corporations, organized by public-spirited citizens with community backing, are to be preferred to direct construction," said its manifesto. "Any temporary plan which may seem to be required by the recovery program to provide employment through the extending of Government financing aid to individual home construction, repairs and improvements should be based on established practices and carried out through the cooperation of the Federal Home Loan Bank Board."

✚ The U. S. Building and Loan League resolved at its 41st annual convention last September that the PWA should be asked to finance residence modernization through building and loan associations. "Discussions" with the PWA began last month, the League arguing that "the smaller cities and communities where the great bulk of the population still lives and the greater portion of the 'home maintenance' activity would be carried on should have the same opportunities as the metropolitan areas where the much talked-of slum projects naturally center. Decentralization of the modernization and replacement activities would aid materially in distributing the employment provided."

✚ Stories flew late last month that the Government planned a fourteen billion dollar building program to supplement the three and one-third billion dollar program now under way. They were based on discovery of a survey by NRA economists contemplating a new two-year drive to stimulate reemployment through the construction industries.

The report, made by a committee of the NRA division of economic research and planning, was submitted as a study of possibilities, and not as a recommendation that the Government strike out at once on such a program.

TICKER TALK

One and All:

Not long ago a bank received a credit inquiry about a man named Sprague. In the normal course of business it replied: "Mr. Oliver Mitchell Wentworth Sprague has been our client for many years and has always had our confidence in his credit and integrity. Mr. Sprague holds the Edmund Cogswell Converse Professorship of Banking and Finance at Harvard and has served as professor of Economics at the Imperial University in Tokyo. In 1930 he went to London where for two years he was financial adviser to the Bank of England and he is now chief economic adviser to the United States Treasury. We consider him a reliable client."

Mr. Sprague might be an excellent credit risk but President Roosevelt found his old teacher too sound for the New Deal. His resignation, though widely predicted, was more of a jolt to Wall Street than the Treasury shake up a few days before. The President had dropped the last of his hard-money pilots. Secretary Woodin had been bundled off on a long leave of absence to regain his health. The bishop's son, young Dean Atcheson, was simply out. Now the professional régime stemmed from Cornell and a professor of farm management was going to try his calloused hand at currency management. On the hopping lid of the U. S. Treasury sat one of his old pupils, Henry Morgenthau, Jr.

George Frederick Warren is no theoretical farmer. He takes his pupils out to his own 500-acre farm near Ithaca, points to his dairy barns which have had only one coat of red paint since they were built and gives this sort of hard-headed advice: "You paint a barn roof to preserve it. You paint a house to sell it. And you paint the sides of a barn to look at — if you can afford it." And he is the man who discovered that there are not two factors in Price but four: supply and demand of the commodity and supply and demand of gold. It's all the fault of gold and he can prove it — at least to his own satisfaction and that of innumerable disciples including the Committee of the Nation, self-styled. That's the man who will be the pilot through the rapids.

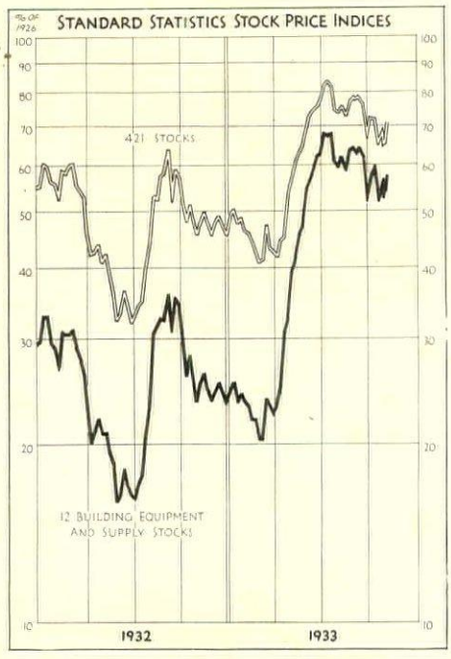
There are lots of people who think that because Henry Morgenthau, Jr., is very rich he will snaffle Mr. Warren when and if that realistic pedagogue starts plunging and rearing about the Treasury. But there is good reason to think Mr. Morgenthau will do nothing of the kind. Fox-bearded, spry old "Uncle Henry," his father, made and kept his fortune in Bronx real estate. The land is there, the buildings are there, and the medium of exchange does not bother him very much. He's hedged all right.

✚ During the Paramount court hearing last month an impertinent attorney asked Adolph Zukor if he could read or write. Zukor's counsel leaped to his feet, objecting to the question as irrelevant. The court sustained the objection and no one ever learned whether Mr. Zukor was really literate. But it set going a saga of Zukor legends of which these are two:

When Charles Laughton was preparing to sign a new contract recently, he glanced at the figure named by Mr. Zukor and was so startled by the size of his salary that he half-protested, "Are you sure that this is correct, Mr. Zukor? I'll never be a matinée idol, you know."

"Yes, I'm aware of that, but you know, Laughton, there seems to be a fad for acting now."

Adolph Zukor was once showing Frank Crowninshield around the lot in Hollywood. Mr. Zukor was very expansive. He recited the costs of this and that, pointed out his stars with appropriate remarks on their six-figured incomes. Mr. Crowninshield was indeed interested but he was disturbed by the fact that Mr. Zukor, who was once a cloak and suiter specializing in furs, kept his eyes fixed not on



Mr. Crowninshield's face but apparently just below the chin and a little to the left. Finally as Mr. Zukor was saying that Paramount would spend so-and-so many millions on next year's production, Mr. Zukor reached out and grabbed Mr. Crowninshield's lapel, exploding: "You know Mr. Crowninshield, that's a *terrible* buttonhole."

✚ Dunhill's stepped out last month as straight specialty store with all drinking equipment plus women's sportswear. Old Alfred Dunhill, who has now retired to yacht-building, was not always a swank tobacconist. Once he ran "Dunhill's Motorities," sold leather breeches, linen dusters, veils, goggles and gauntlets to motor-minded lords and ladies just after the turn of the century. David Schulte now owns Dunhill's. They are going into the liquor business. After Mr. Mulrooney decreed that sitting-down drinking was more edifying than standing-up drinking and that liquor dealers must observe the old rule that the store must be at least 200 ft. from a church, Dunhill's found itself in a pretty stew: the new store in Rockefeller Center is only 185 ft. from St. Patrick's on Fifth Avenue. They think maybe they can get around Mr. Mulrooney by measuring to the side door, not the front. The Gotham Hotel once faced the same problem before the War. They were too close to St. Thomas's. So the bar was installed on the twelfth floor which was just about 201 ft. from the steps of St. Thomas, measured diagonally up.

Dunhill's manager used to have trouble with that Great Impostor Mike Romanoff. Finally on one of Mike's escapes from Ellis Island, he reluctantly called a cop. After that the world began to appreciate Mike Romanoff and when the new Dunhill's was almost ready to open, David Schulte offered Mike $100 a week to clerk for him. Mike's manager turned it down. Last heard of Mike was hosting in a night club and granting interviews on what recognition meant to all the Russians.

✚ No one can deny that the President is one of the most persuasive men, one of the greatest negotiators, that a nation of super-salesmen ever produced. Washington heard that he consistently out-traded that rolly-polly one-time salesman Maxim Maximovitch Litvinoff. But the best example was the way he pacified both his brilliant, cock-sure Coordinator of Transportation Joseph Eastman and the four rail-rolling steelmasters on price of rails. Mr. Eastman was saying $35 a ton or my dead body. Myron Taylor and his three friends said $37.50 and what about the code. Mr. Eastman snarled "Collusion." So the President summoned them to the White House. The steelmen brought their counsels, Mr. Eastman righteous wrath.

They all filed in stiffly and somehow or other Mr. Roosevelt made them feel very much at ease — very much against their will. The story is that he greeted arch-Republican Paul Cravath like a long-lost classmate. He told a long meandering story about two Scotchmen, pointing up with something about "Split it fifty-fifty." The steelmen went into a huddle and Mr. Eastman murmured nothing about collusion. The steelmen suggested $36.50. Tut, tut, said the President, that's not fifty-fifty, and then he did some numbers himself. When they all emerged the price was $36.375 — and they were all surprised and a little sheepish. What are you going to do with a man like that, Mr. Sprague?

Between Sales: Old John Ringling was taken to the wringer under peculiar circumstances. In the summer last year the Press reported that the last of the seven Brothers Ringling had had one if not both his legs amputated. Mister John merely had a blister on his instep but he *was* ill. And while he was in bed in a Coney Island Hotel, one William Greve came out to ask for more collateral for a $1,700,000 loan. In fact, he demanded: "Put all your assets in a bag and give them to me." So they wheeled the old circus tycoon into another room and with a fever of 104 he scribbled away almost everything including a large part of the art collection in Sarasota, Fla. But if he pays up the loan he can get back all the circus stock and the Rembrandts too. . . . Brokers have a flair for simple-minded diversions. Latest is the match game. Each person in the group takes three matches, put all, any part of them or none into his clenched fist. Then they all put their fists on the table and start guessing the *total* number of matches in all fists. If you guess right, you're out, and the rest continue. Last man in buys the Cadillac. . . . A lot of tycoons bought electric dobbins in the days of Calvin Coolidge — *autres temps, autres moeurs*. Now they are embarrassing reminders. In Electric Bond & Share's offices there are quite a number of these beasts and the owners are having a terrible time putting them out to pasture without the clerks seeing them clomp into the elevators.

Very truly yours,

Longan Short